



# results of BLAST

BLASTP 2.2.10 [Oct-19-2004]

SEQ ID NO: 4

Reference:

Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schäffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

RID: 1104160206-10511-61188819845.BLASTQ1

**Query=**

(174 letters)

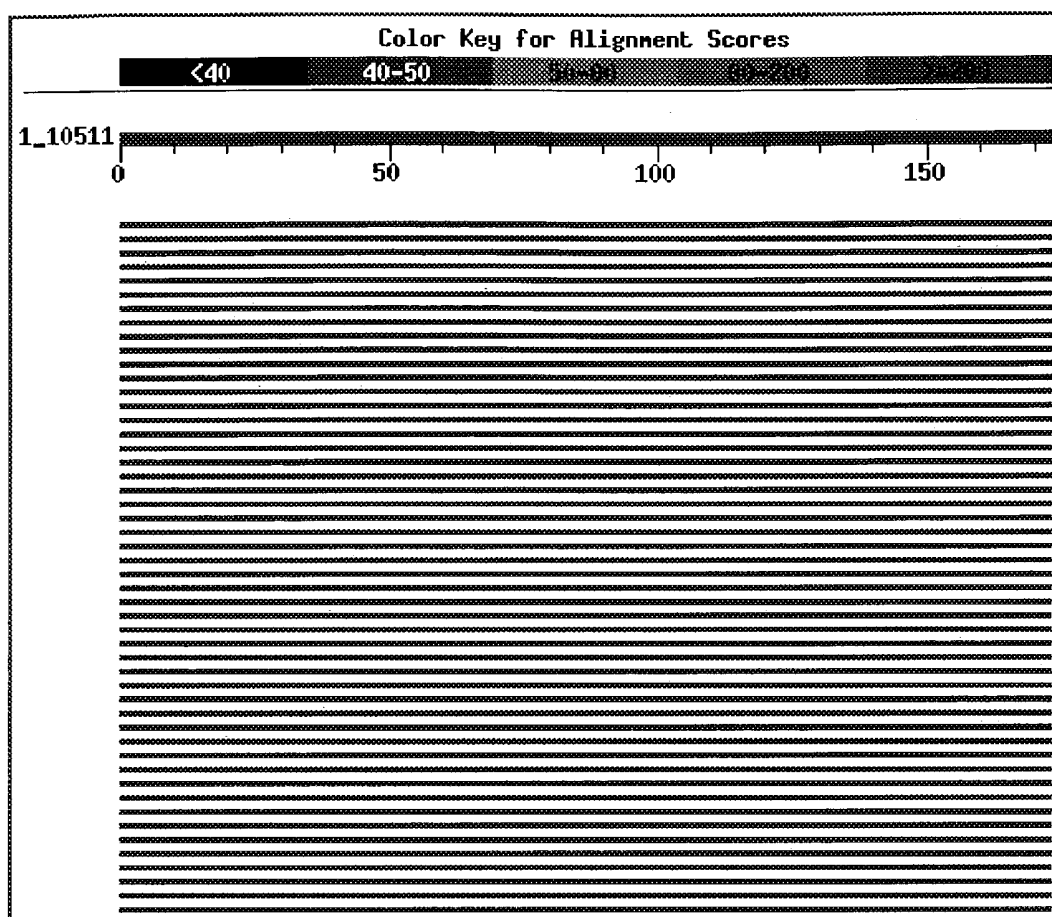
**Database:** All non-redundant GenBank CDS translations+PDB+SwissProt+PIR+PRF excluding environmental samples  
2,257,396 sequences; 761,794,665 total letters

If you have any problems or questions with the results of this search please refer to the [BLAST FAQs](#)

[Taxonomy reports](#)

## Distribution of 500 Blast Hits on the Query Sequence

Mouse-over to show defline and scores. Click to show alignments



Sequences producing significant alignments:		Score (bits)	E Value
gi 3551333 dbj BAA32887.1	envelope protein [Hepatitis B vi...	360	1e-98
gi 55420282 gb AAV52022.1	envelope protein [Hepatitis B vi...	358	3e-98
gi 32346278 gb AAO41312.1	preS1/preS2 surface protein [Hep...	358	3e-98
gi 30983637 gb AAP40761.1	truncated large S protein [Hepat...	358	3e-98
gi 30026457 gb AAP06650.1	truncated large S protein [Hepat...	358	3e-98
gi 14290242 gb AAK59317.1	surface antigen [Hepatitis B virus]	358	3e-98
gi 15340848 gb AAK94664.1	HBsAg [Hepatitis B virus]	358	3e-98
gi 15340846 gb AAK94663.1	HBsAg [Hepatitis B virus] >gi 15...	358	3e-98
gi 15340842 gb AAK94661.1	HBsAg [Hepatitis B virus]	358	3e-98
gi 13491149 gb AAK27855.1	large S protein [Hepatitis B virus]	358	3e-98
gi 3551303 dbj BAA32860.1	envelope protein [Hepatitis B vi...	358	3e-98
gi 11041688 dbj BAB17299.1	large surface antigen [Hepatiti...	358	3e-98
gi 11041682 dbj BAB17297.1	large surface antigen [Hepatiti...	358	3e-98
gi 6063441 dbj BAA85358.1	preS1/preS2/S envelope [Hepatiti...	358	3e-98
gi 2626995 dbj BAA23443.1	large surface protein [Hepatitis...	358	3e-98
gi 9082086 gb AAF82724.1	large surface antigen [Hepatitis ...	358	3e-98
gi 30026392 gb AAP06594.1	large S protein [Hepatitis B virus]	358	4e-98
gi 22203514 gb AAM92187.1	preS1 [Hepatitis B virus]	358	4e-98
gi 18252577 gb AAL66340.1	HBsAg [Hepatitis B virus] >gi 18...	358	4e-98
gi 560073 dbj BAA04920.1	HBV surface proteins [Hepatitis B...	358	4e-98
gi 55420273 gb AAV52015.1	envelope protein [Hepatitis B vi...	357	5e-98
gi 15340838 gb AAK94659.1	HBsAg [Hepatitis B virus]	357	7e-98
gi 15340836 gb AAK94658.1	HBsAg [Hepatitis B virus]	357	7e-98

<a href="#">gi 15340834 gb AAK94657.1 </a>	HBsAg [Hepatitis B virus]	<a href="#">357</a>	7e-98
<a href="#">gi 3551388 db BAA32958.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">357</a>	7e-98
<a href="#">gi 30026450 gb AAP06644.1 </a>	large S protein [Hepatitis B virus]	<a href="#">357</a>	9e-98
<a href="#">gi 29469134 gb AAO63480.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">356</a>	1e-97
<a href="#">gi 6063456 db BAA85366.1 </a>	preS1/preS2/S envelope [Hepatiti...	<a href="#">356</a>	1e-97
<a href="#">gi 6063431 db BAA85350.1 </a>	preS1/preS2/S envelope [Hepatiti...	<a href="#">356</a>	1e-97
<a href="#">gi 55420287 gb AAV52026.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">356</a>	2e-97
<a href="#">gi 32346282 gb AAO41315.1 </a>	preS1/preS2 surface protein [Hep...	<a href="#">356</a>	2e-97
<a href="#">gi 3582372 db BAA32923.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">356</a>	2e-97
<a href="#">gi 3551358 db BAA32907.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">356</a>	2e-97
<a href="#">gi 3551313 db BAA32868.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">356</a>	2e-97
<a href="#">gi 29469139 gb AAO63484.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">355</a>	2e-97
<a href="#">gi 18252557 gb AAL66324.1 </a>	HBsAg [Hepatitis B virus] >gi 18...	<a href="#">355</a>	2e-97
<a href="#">gi 2627010 db BAA23456.1 </a>	large surface protein [Hepatitis...	<a href="#">355</a>	2e-97
<a href="#">gi 2627003 db BAA23450.1 </a>	large surface protein [Hepatitis...	<a href="#">355</a>	2e-97
<a href="#">gi 29469144 gb AAO63488.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">355</a>	3e-97
<a href="#">gi 73562 pir SAVLA</a>	large surface antigen - hepatitis B vir...	<a href="#">355</a>	3e-97
<a href="#">gi 2982336 gb AAC06358.1 </a>	large surface antigen [Hepatitis ...	<a href="#">355</a>	3e-97
<a href="#">gi 3551373 db BAA32940.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">355</a>	3e-97
<a href="#">gi 3551348 db BAA32899.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">355</a>	3e-97
<a href="#">gi 6063426 db BAA85383.1 </a>	preS1/preS2/S envelope protein [...	<a href="#">355</a>	3e-97
<a href="#">gi 55420278 gb AAV52019.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">355</a>	3e-97
<a href="#">gi 13991876 gb AAK51542.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">355</a>	3e-97
<a href="#">gi 13991866 gb AAK51534.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">355</a>	3e-97
<a href="#">gi 18252537 gb AAL66308.1 </a>	large/middle/small surface antig...	<a href="#">355</a>	3e-97
<a href="#">gi 51449952 gb AAU01945.1 </a>	preS1/preS2 surface [Hepatitis B...	<a href="#">354</a>	4e-97
<a href="#">gi 3551383 db BAA32948.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">354</a>	4e-97
<a href="#">gi 3582380 db BAA32929.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">354</a>	4e-97
<a href="#">gi 11041685 db BAB17298.1 </a>	large surface antigen [Hepatiti...	<a href="#">354</a>	4e-97
<a href="#">gi 560093 db BAA04936.1 </a>	HBV surface proteins [Hepatitis B...	<a href="#">354</a>	4e-97
<a href="#">gi 457783 emb CAA37114.1 </a>	unnamed protein product [Hepatiti...	<a href="#">354</a>	6e-97
<a href="#">gi 3551279 db BAA32841.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">354</a>	6e-97
<a href="#">gi 560088 db BAA04932.1 </a>	HBV surface proteins [Hepatitis B...	<a href="#">354</a>	6e-97
<a href="#">gi 560083 db BAA04928.1 </a>	HBV surface proteins [Hepatitis B...	<a href="#">354</a>	6e-97
<a href="#">gi 30026377 gb AAP06581.1 </a>	large S protein [Hepatitis B virus]	<a href="#">353</a>	8e-97
<a href="#">gi 30026370 gb AAP06575.1 </a>	large S protein [Hepatitis B virus]	<a href="#">353</a>	1e-96
<a href="#">gi 3582360 db BAA32914.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">353</a>	1e-96
<a href="#">gi 3551343 db BAA32895.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">353</a>	1e-96
<a href="#">gi 16151165 gb AAL13124.1 </a>	pre-S1/pre-S2 protein [synthetic...	<a href="#">353</a>	1e-96
<a href="#">gi 15072541 gb AAK81689.1 </a>	pre-S1/pre-S2 protein [Hepatitis...	<a href="#">353</a>	1e-96
<a href="#">gi 313779 emb CAA25747.1 </a>	unnamed protein product [Hepatiti...	<a href="#">352</a>	2e-96
<a href="#">gi 12060437 db BAE20608.1 </a>	surface protein [Hepatitis B vi...	<a href="#">352</a>	2e-96
<a href="#">gi 138790 sp P12934 VMSA_HPEV4</a>	MAJOR SURFACE ANTIGEN PRECURSOR	<a href="#">352</a>	2e-96
<a href="#">gi 55978959 gb AAV68938.1 </a>	truncated large S protein [Hepat...	<a href="#">352</a>	2e-96
<a href="#">gi 32250978 gb AAP74327.1 </a>	large S protein [Hepatitis B virus]	<a href="#">352</a>	2e-96
<a href="#">gi 23194250 gb AAN15072.1 </a>	pre-S1 protein [Hepatitis B virus]	<a href="#">352</a>	2e-96
<a href="#">gi 22651881 gb AAN03492.1 </a>	surface antigen [Hepatitis B virus]	<a href="#">352</a>	2e-96
<a href="#">gi 18252590 gb AAL66347.1 </a>	PreS1+PreS2+S [Hepatitis B virus]	<a href="#">352</a>	2e-96
<a href="#">gi 3582396 db BAA32964.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">352</a>	2e-96
<a href="#">gi 6063461 db BAA85370.1 </a>	preS1/preS2/S envelope [Hepatiti...	<a href="#">352</a>	2e-96
<a href="#">gi 560078 db BAA04924.1 </a>	HBV surface proteins [Hepatitis B...	<a href="#">352</a>	2e-96
<a href="#">gi 32346262 gb AAO41300.1 </a>	preS1/preS2 surface protein [Hep...	<a href="#">352</a>	3e-96
<a href="#">gi 15340840 gb AAK94660.1 </a>	HBsAg [Hepatitis B virus]	<a href="#">352</a>	3e-96
<a href="#">gi 3582388 db BAA32951.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">352</a>	3e-96
<a href="#">gi 12060442 db BAE20612.1 </a>	surface protein [Hepatitis B vi...	<a href="#">351</a>	4e-96
<a href="#">gi 3582408 db BAA32973.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">351</a>	4e-96
<a href="#">gi 3551294 db BAA32853.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">351</a>	4e-96
<a href="#">gi 2288873 db BAA21666.1 </a>	surface antigen [Hepatitis B virus]	<a href="#">351</a>	4e-96
<a href="#">gi 6538780 gb AAF15903.1 </a>	large envelope protein [Hepatitis...	<a href="#">351</a>	5e-96
<a href="#">gi 3582368 db BAA32920.1 </a>	envelope protein [Hepatitis B vi...	<a href="#">350</a>	6e-96

gi 3551284 dbj BAA32845.1	envelope protein [Hepatitis B vi...	350	6e-96
gi 3582356 dbj BAA32875.1	envelope protein [Hepatitis B vi...	350	8e-96
gi 11041673 dbj EAB17296.1	large surface antigen [Hepatiti...	350	8e-96
gi 16751308 gb AAL25948.1	preS1/preS2/S protein [Hepatitis...	349	1e-95
gi 22415736 gb AAM95243.1	large/middle/small surface antig...	349	2e-95
gi 32346294 gb AAO41324.1	preS1/preS2 surface protein [Hep...	348	2e-95
gi 30027696 gb AAP13937.1	preS1/preS2 [Hepatitis B virus]	348	2e-95
gi 30026408 gb AAP06608.1	large S protein [Hepatitis B virus]	348	2e-95
gi 3551269 dbj BAA32833.1	envelope protein [Hepatitis B vi...	348	2e-95
gi 39979296 dbj BAD05125.1	large surface protein [Hepatiti...	348	3e-95
gi 479848 pir S35528	surface antigen - hepatitis B virus (...)	348	3e-95
gi 3582376 dbj BAA32926.1	envelope protein [Hepatitis B vi...	348	3e-95
gi 18252542 gb AAL66312.1	large/middle/small surface antig...	347	5e-95
gi 3582364 dbj BAA32917.1	envelope protein [Hepatitis B vi...	347	5e-95
gi 30026356 gb AAP06563.1	large S protein [Hepatitis B vir...	347	9e-95
gi 51449947 gb AAU01941.1	preS1/preS2 surface [Hepatitis B...	347	9e-95
gi 12246965 gb AAG49664.1	large S protein [Hepatitis B virus]	347	9e-95
gi 12246959 gb AAG49659.1	large S protein [Hepatitis B virus]	347	9e-95
gi 4206638 gb AAD11756.1	surface antigen [Hepatitis B virus]	347	9e-95
gi 6006323 dbj BAA84820.1	envelope protein [Hepatitis B vi...	347	9e-95
gi 3551363 dbj BAA32911.1	envelope protein [Hepatitis B vi...	347	9e-95
gi 21624239 dbj BAC01110.1	large S protein [Hepatitis B vi...	347	9e-95
gi 21624232 dbj BAC01104.1	large S protein [Hepatitis B vi...	346	1e-94
gi 12698740 gb AAK01668.1	large surface antigen [Hepatitis...	346	2e-94
gi 12698738 gb AAK01667.1	large surface antigen [Hepatitis...	345	2e-94
gi 3551353 dbj BAA32903.1	envelope protein [Hepatitis B vi...	345	2e-94
gi 9247182 gb AAB36406.2	envelope [Hepatitis B virus]	345	2e-94
gi 30983623 gb AAP40749.1	large S protein [Hepatitis B virus]	345	4e-94
gi 18252567 gb AAL66332.1	HBsAg [Hepatitis B virus]	345	4e-94
gi 12247013 gb AAG49706.1	large S protein [Hepatitis B vir...	345	4e-94
gi 21218026 dbj BAB96527.1	large S protein [Hepatitis B vi...	344	5e-94
gi 21218024 dbj BAB96526.1	large S protein [Hepatitis B vi...	344	5e-94
gi 18845082 gb AAL79542.1	large S protein [Hepatitis B virus]	343	8e-94
gi 22212852 gb AAM94412.1	surface protein [Hepatitis B virus]	343	1e-93
gi 39748645 dbj EAD05003.1	large surface protein [Hepatiti...	343	1e-93
gi 30026322 gb AAP06534.1	large S protein [Hepatitis B virus]	342	2e-93
gi 39979301 dbj BAD05129.1	large surface protein [Hepatiti...	342	2e-93
gi 42558179 dbj BAD11079.1	large surface protein [Hepatiti...	342	2e-93
gi 3582392 dbj BAA32954.1	envelope protein [Hepatitis B vi...	342	2e-93
gi 39840926 dbj BAD05030.1	large surface protein [Hepatiti...	342	2e-93
gi 12247004 gb AAG49698.1	large S protein [Hepatitis B virus]	342	2e-93
gi 6006332 dbj BAA84826.1	envelope protein [Hepatitis B vi...	342	2e-93
gi 12246989 gb AAG49685.1	large S protein [Hepatitis B virus]	341	5e-93
gi 22212854 gb AAM94413.1	surface protein [Hepatitis B virus]	340	7e-93
gi 29169232 gb AAO65967.1	preS1/preS2/S protein [Hepatitis...	338	3e-92
gi 10443842 gb AAG17603.1	large S protein [Hepatitis B virus]	338	4e-92
gi 41152698 dbj BAD08227.1	large surface protein [Hepatiti...	337	6e-92
gi 39748640 dbj BAD04999.1	large surface protein [Hepatiti...	336	2e-91
gi 39748635 dbj BAD04995.1	large surface protein [Hepatiti...	336	2e-91
gi 27466481 gb AAO12605.1	preS1 [Hepatitis B virus] >gi 27...	335	2e-91
gi 27466428 gb AAO12549.1	preS1 [Hepatitis B virus]	335	2e-91
gi 27466420 gb AAO12542.1	preS1 [Hepatitis B virus]	335	2e-91
gi 10443834 gb AAG17596.1	large S protein [Hepatitis B virus]	335	2e-91
gi 329726 gb AAA45527.1	B1 recombinant molecule; ORF3	335	2e-91
gi 55420296 gb AAV52033.1	envelope protein [Hepatitis B vi...	334	6e-91
gi 38000037 gb AAR07101.1	large S protein [Hepatitis B virus]	334	6e-91
gi 38000021 gb AAR07094.1	large S protein [Hepatitis B virus]	334	6e-91
gi 1518547 gb AAB47466.1	large S protein	334	6e-91
gi 895688 gb AAA69630.1	surface protein [Hepatitis B virus...	333	8e-91
gi 16751313 gb AAL25952.1	preS1/preS2/S protein [Hepatitis...	333	1e-90

gi 55420292 gb AAV52030.1	envelope protein [Hepatitis B vi...	332	2e-90
gi 5114088 gb AAD40219.1	PreS1+PreS2+HBsAg [Hepatitis B vi...	332	2e-90
gi 21541276 emb CAD34587.1	surface antigen [Hepatitis B vi...	332	3e-90
gi 1518551 gb AAB47468.1	large S protein	332	3e-90
gi 34761131 gb AAQ81921.1	surface protein [Hepatitis B virus]	331	4e-90
gi 38000035 gb AAR07100.1	large S protein [Hepatitis B virus]	331	4e-90
gi 65373141 gb AAF15597.1	truncated large envelope protein ...	331	5e-90
gi 38000041 gb AAR07103.1	large S protein [Hepatitis B virus]	331	5e-90
gi 38000033 gb AAR07099.1	large S protein [Hepatitis B virus]	331	5e-90
gi 32330500 gb AAP79741.1	large S protein [Hepatitis B virus]	331	5e-90
gi 1518549 gb AAB47467.1	large S protein	331	5e-90
gi 329728 gb AAA45528.1	B1 wild-type molecule; ORF1	331	5e-90
gi 34761126 gb AAQ81917.1	surface protein [Hepatitis B virus]	330	7e-90
gi 10443826 gb AAG17589.1	large S protein [Hepatitis B virus]	330	7e-90
gi 10443818 gb AAG17582.1	large S protein [Hepatitis B virus]	330	9e-90
gi 3551323 dbj BAA32879.1	envelope protein [Hepatitis B vi...	330	9e-90
gi 32330588 gb AAP79818.1	large S protein [Hepatitis B virus]	330	1e-89
gi 32330540 gb AAP79776.1	large S protein [Hepatitis B virus]	330	1e-89
gi 32330468 gb AAP79713.1	large S protein [Hepatitis B virus]	330	1e-89
gi 18389986 gb AAL63820.1	surface antigen [Hepatitis B virus]	329	2e-89
gi 10443810 gb AAG17575.1	large S protein [Hepatitis B virus]	329	2e-89
gi 6466903 gb AAF05722.2	large envelope protein [Hepatitis...	328	3e-89
gi 32330532 gb AAP79769.1	large S protein [Hepatitis B virus]	328	3e-89
gi 52353926 gb AAU44345.1	large S protein [Hepatitis B virus]	328	3e-89
gi 50540998 gb AAT77986.1	pre-S/S protein [Hepatitis B virus]	328	3e-89
gi 38000019 gb AAR07093.1	large S protein [Hepatitis B virus]	328	4e-89
gi 32330556 gb AAP79790.1	large S protein [Hepatitis B virus]	328	4e-89
gi 38000017 gb AAR07092.1	large S protein [Hepatitis B virus]	327	6e-89
gi 38000031 gb AAR07098.1	large S protein [Hepatitis B virus]	327	6e-89
gi 47489956 gb AAT28735.1	large S protein [Hepatitis B vir...	327	6e-89
gi 5114073 gb AAD40207.1	PreS1+PreS2+HBsAg [Hepatitis B vi...	327	6e-89
gi 32330564 gb AAP79797.1	large S protein [Hepatitis B virus]	327	8e-89
gi 50540996 gb AAT77985.1	pre-S/S protein [Hepatitis B virus]	327	1e-88
gi 32330572 gb AAP79804.1	large S protein [Hepatitis B virus]	327	1e-88
gi 32330516 gb AAP79755.1	large S protein [Hepatitis B virus]	327	1e-88
gi 20151227 gb AAC58023.3	preS1/S2/S protein [Hepatitis B ...	326	1e-88
gi 32330508 gb AAP79748.1	large S protein [Hepatitis B virus]	326	1e-88
gi 32330492 gb AAP79734.1	large S protein [Hepatitis B virus]	326	1e-88
gi 38000026 gb AAR07096.1	large S protein [Hepatitis B virus]	326	2e-88
gi 3551318 dbj BAA32872.1	envelope protein [Hepatitis B vi...	326	2e-88
gi 15211898 emb CAC51287.1	large surface antigen [Hepatiti...	325	2e-88
gi 20800460 gb AAM28641.1	envelope protein [Hepatitis B vi...	325	2e-88
gi 32330548 gb AAP79783.1	large S protein [Hepatitis B virus]	325	2e-88
gi 22655604 gb AAN04131.1	large S protein [Hepatitis B virus]	325	3e-88
gi 23194352 gb AAN15127.1	large S protein [Hepatitis B virus]	325	3e-88
gi 22530872 gb AAM96926.1	large S protein [Hepatitis B vir...	325	3e-88
gi 38000028 gb AAR07097.1	large S protein [Hepatitis B virus]	325	3e-88
gi 47499924 gb AAT28711.1	large S protein [Hepatitis B virus]	325	3e-88
gi 47499884 gb AAT28681.1	large S protein [Hepatitis B virus]	325	3e-88
gi 32330484 gb AAP79727.1	large S protein [Hepatitis B virus]	325	3e-88
gi 5114078 gb AAD40211.1	PreS1+PreS2+HBsAg [Hepatitis B vi...	325	3e-88
gi 40846458 gb AAR92495.1	LHBS/MHBS/HBsAg [Hepatitis B virus]	325	3e-88
gi 18146690 dbj BAE82408.1	LHBS [Hepatitis B virus]	325	3e-88
gi 18621108 emb CAC87026.1	large surface antigen [Hepatiti...	324	5e-88
gi 38000039 gb AAR07102.1	large S protein [Hepatitis B virus]	324	5e-88
gi 32330596 gb AAP79825.1	large S protein [Hepatitis B virus]	324	5e-88
gi 527444 emb CAA84792.1	surface protein S [Hepatitis B vi...	324	6e-88
gi 26224722 gb AAN76319.1	envelope protein [Hepatitis B vi...	324	6e-88
gi 7593014 dbj BAA94507.1	surface antigen [Hepatitis B virus]	324	6e-88
gi 23194345 gb AAN15121.1	large S protein [Hepatitis B virus]	323	8e-88

gi 42558184 dbj BAD11082.1	large surface protein [Hepatiti...	323	8e-88
gi 17226087 gb AAL37608.1	aberrant pre-S/S protein [Hepati...	323	8e-88
gi 6538747 gb AAF15886.1	truncated large envelope protein ...	323	1e-87
gi 17226089 gb AAL37609.1	aberrant pre-S/S protein [Hepati...	323	1e-87
gi 3582400 dbj BAA32967.1	envelope protein [Hepatitis B vi...	323	1e-87
gi 15211891 emb CAC51281.1	large surface antigen [Hepatiti...	322	2e-87
gi 908857 emb CAA36230.1	S gene product [Hepatitis B virus...	322	2e-87
gi 27466444 gb AAO12563.1	preS1 [Hepatitis B virus]	322	2e-87
gi 17226075 gb AAL37602.1	mutant pre-S/S protein [Hepatiti...	322	2e-87
gi 12246997 gb AAG49692.1	large S protein [Hepatitis B vir...	322	2e-87
gi 15320532 gb AAK95345.1	large S protein [Hepatitis B virus]	321	4e-87
gi 27466505 gb AAO12591.1	preS1 [Hepatitis B virus]	321	5e-87
gi 2997629 gb AAC35890.1	large S protein [Hepatitis B virus]	321	5e-87
gi 15211906 emb CAC51294.1	large surface antigen [Hepatiti...	320	7e-87
gi 27466436 gb AAO12556.1	preS1 [Hepatitis B virus]	320	7e-87
gi 17226073 gb AAL37601.1	mutant pre-S/S protein [Hepatiti...	320	7e-87
gi 32330580 gb AAP79811.1	large S protein [Hepatitis B virus]	320	9e-87
gi 5114083 gb AAD40215.1	PreS1+PreS2+HBsAg [Hepatitis B vi...	320	9e-87
gi 6692567 gb AAF24735.1	large S protein [Hepatitis B virus]	320	1e-86
gi 5114068 gb AAD40203.1	PreS1+PreS2+HBsAg [Hepatitis B vi...	320	1e-86
gi 17226081 gb AAL37605.1	mutant pre-S/S protein [Hepatiti...	319	2e-86
gi 17226079 gb AAL37604.1	mutant pre-S/S protein [Hepatiti...	319	2e-86
gi 17226069 gb AAL37599.1	mutant pre-S/S protein [Hepatiti...	319	2e-86
gi 27923031 dbj BAC55957.1	large surface protein [Hepatiti...	319	2e-86
gi 6063451 dbj BAA85344.1	preS1/pres2/S envelope [Hepatiti...	319	2e-86
gi 14488425 gb AAC58029.2	large surface antigen [Hepatitis...	318	3e-86
gi 33284986 dbj BAC80210.1	large surface protein [Hepatiti...	318	4e-86
gi 41152702 dbj BAD08230.1	large surface protein [Hepatiti...	318	5e-86
gi 18031716 gb AAL56631.1	surface protein HBsAg [Hepatitis...	318	5e-86
gi 18031712 gb AAL56629.1	surface protein HBsAg [Hepatitis...	318	5e-86
gi 30026428 gb AAP06625.1	large S protein [Hepatitis B virus]	317	6e-86
gi 38488599 dbj BAD02316.1	large surface protein [Hepatiti...	317	6e-86
gi 32330476 gb AAP79720.1	large S protein [Hepatitis B virus]	317	6e-86
gi 55978972 gb AAV68949.1	large S protein [Hepatitis B vir...	317	8e-86
gi 59421 emb CAA26539.1	unnamed protein product [Hepatitis...	317	8e-86
gi 47499888 gb AAT28684.1	large S protein [Hepatitis B virus]	317	8e-86
gi 32330524 gb AAP79762.1	large S protein [Hepatitis B virus]	317	1e-85
gi 6692560 gb AAF24728.1	large S protein [Hepatitis B virus]	317	1e-85
gi 6006342 dbj BAA84834.1	envelope protein [Hepatitis B vi...	317	1e-85
gi 6692540 gb AAF24708.1	large S protein [Hepatitis B viru...	316	1e-85
gi 6692526 gb AAF24694.1	large S protein [Hepatitis B virus]	316	1e-85
gi 6063446 dbj BAA85340.1	preS1/pres2/S envelope [Hepatiti...	316	1e-85
gi 30026436 gb AAP06632.1	large S protein [Hepatitis B virus]	316	2e-85
gi 3551378 dbj BAA32944.1	envelope protein [Hepatitis B vi...	316	2e-85
gi 51449928 gb AAU01926.1	preS1/preS2 surface [Hepatitis B...	315	2e-85
gi 21431679 gb AAM53412.1	surface protein [Hepatitis B virus]	315	2e-85
gi 17226071 gb AAL37600.1	mutant pre-S/S protein [Hepatiti...	315	2e-85
gi 30026315 gb AAP06528.1	large S protein [Hepatitis B virus]	315	3e-85
gi 39930184 dbj BAD05054.1	large surface protein [Hepatiti...	315	3e-85
gi 6692554 gb AAF24722.1	large S protein [Hepatitis B virus]	315	3e-85
gi 9454474 gb AAF87834.1	preS1/preS2/S envelope protein [H...	315	3e-85
gi 32346302 gb AAO41330.1	preS1/preS2 surface protein [Hep...	315	4e-85
gi 32346255 gb AAO41295.1	preS1/preS2 surface protein [Hep...	315	4e-85
gi 30026362 gb AAP06568.1	large S protein [Hepatitis B virus]	315	4e-85
gi 51449958 gb AAU01950.1	preS1/preS2 surface [Hepatitis B...	315	4e-85
gi 51449922 gb AAU01921.1	preS1/preS2 surface [Hepatitis B...	315	4e-85
gi 29150593 gb AAO64450.1	truncated surface antigen [Hepat...	315	4e-85
gi 6692547 gb AAF24715.1	large S protein [Hepatitis B virus]	315	4e-85
gi 51449962 gb AAU01953.1	preS1/preS2 surface [Hepatitis B...	314	5e-85
gi 55978954 gb AAV68934.1	large S protein [Hepatitis B virus]	314	7e-85

gi 30983615 gb AAP40742.1	large S protein [Hepatitis B virus]	<u>314</u>	7e-85
gi 30026329 gb AAP06540.1	large S protein [Hepatitis B virus]	<u>314</u>	7e-85
gi 15340832 gb AAK94656.1	HBsAg [Hepatitis B virus]	<u>314</u>	7e-85
gi 2997633 gb AAC35892.1	large S protein [Hepatitis B virus]	<u>314</u>	7e-85
gi 7444294 pir T13469	large surface antigen - hepatitis B ...	<u>314</u>	7e-85
gi 34761146 gb AAQ81933.1	surface protein [Hepatitis B virus]	<u>313</u>	9e-85
gi 32346290 gb AAO41321.1	preS1/preS2 surface protein [Hep...]	<u>313</u>	9e-85
gi 30026400 gb AAP06601.1	large S protein [Hepatitis B virus]	<u>313</u>	9e-85
gi 6566411 dbj BAA88276.1	L protein [Hepatitis B virus]	<u>313</u>	9e-85
gi 19224215 gb AAL86446.1	large S protein [Hepatitis B virus]	<u>313</u>	1e-84
gi 32346286 gb AAO41318.1	preS1/preS2 surface protein [Hep...]	<u>313</u>	1e-84
gi 27261587 gb AAN85929.1	surface antigen [Hepatitis B vir...]	<u>313</u>	1e-84
gi 17226065 gb AAL37597.1	mutant pre-S/S protein [Hepatiti...]	<u>313</u>	1e-84
gi 32346298 gb AAO41327.1	preS1/preS2 surface protein [Hep...]	<u>313</u>	1e-84
gi 30026342 gb AAP06551.1	large S protein [Hepatitis B virus]	<u>313</u>	1e-84
gi 38000023 gb AAR07095.1	large S protein [Hepatitis B virus]	<u>313</u>	1e-84
gi 13991871 gb AAK51538.1	truncated envelope protein [Hepa...]	<u>312</u>	2e-84
gi 41059686 gb AAR99337.1	Pre-S/S protein [Hepatitis B virus]	<u>312</u>	2e-84
gi 3551338 dbj BAA32891.1	envelope protein [Hepatitis B vi...]	<u>312</u>	2e-84
gi 51449938 gb AAU01934.1	preS1/preS2 surface [Hepatitis B...]	<u>312</u>	3e-84
gi 1359703 emb CAA66445.1	pre-S1 protein [Hepatitis B viru...]	<u>312</u>	3e-84
gi 38147025 gb AAP44480.1	large S protein [Hepatitis B virus]	<u>312</u>	3e-84
gi 9885812 gb AAG01538.1	large envelope protein [Hepatitis...]	<u>311</u>	3e-84
gi 5019961 gb AAD37942.1	pre-S/S protein [Hepatitis B virus]	<u>311</u>	3e-84
gi 6692573 gb AAF24741.1	large S protein [Hepatitis B virus]	<u>311</u>	3e-84
gi 30983609 gb AAP40737.1	large S protein [Hepatitis B virus]	<u>311</u>	4e-84
gi 54645920 gb AAV36565.1	S1 protein [Hepatitis B virus]	<u>311</u>	6e-84
gi 30026385 gb AAP06588.1	large S protein [Hepatitis B virus]	<u>311</u>	6e-84
gi 560058 dbj BAA04908.1	HBV surface proteins [Hepatitis B...]	<u>311</u>	6e-84
gi 51449973 gb AAU01962.1	preS1/preS2 surface [Hepatitis B...]	<u>310</u>	7e-84
gi 3582404 dbj BAA32970.1	envelope protein [Hepatitis B vi...]	<u>310</u>	7e-84
gi 560063 dbj BAA04912.1	HBV surface proteins [Hepatitis B...]	<u>310</u>	7e-84
gi 32346274 gb AAO41309.1	preS1/preS2 surface protein [Hep...]	<u>310</u>	1e-83
gi 51449933 gb AAU01930.1	preS1/preS2 surface [Hepatitis B...]	<u>310</u>	1e-83
gi 17226077 gb AAL37603.1	mutant pre-S/S protein [Hepatiti...]	<u>310</u>	1e-83
gi 2997635 gb AAC35893.1	large S protein [Hepatitis B virus]	<u>310</u>	1e-83
gi 560068 dbj BAA04916.1	HBV surface proteins [Hepatitis B...]	<u>310</u>	1e-83
gi 6566441 dbj BAA88287.1	L protein [Hepatitis B virus]	<u>310</u>	1e-83
gi 3551368 dbj BAA32933.1	envelope protein [Hepatitis B vi...]	<u>310</u>	1e-83
gi 14488427 gb AAC38040.2	large surface antigen [Hepatitis...]	<u>309</u>	2e-83
gi 2997639 gb AAC35895.1	large S protein [Hepatitis B virus]	<u>309</u>	2e-83
gi 32346306 gb AAO41333.1	preS1/preS2 surface protein [Hep...]	<u>309</u>	2e-83
gi 32346266 gb AAO41303.1	preS1/preS2 surface protein [Hep...]	<u>309</u>	2e-83
gi 17226067 gb AAL37598.1	mutant pre-S/S protein [Hepatiti...]	<u>309</u>	2e-83
gi 2997631 gb AAC35891.1	large S protein [Hepatitis B virus]	<u>309</u>	2e-83
gi 6566429 dbj BAA88282.1	M protein [Hepatitis B virus]	<u>308</u>	3e-83
gi 51449942 gb AAU01937.1	preS1/preS2 surface [Hepatitis B...]	<u>308</u>	5e-83
gi 6573294 dbj BAA88292.1	L protein [Hepatitis B virus]	<u>307</u>	6e-83
gi 3551274 dbj BAA32837.1	envelope protein [Hepatitis B vi...]	<u>307</u>	6e-83
gi 30983660 gb AAP40781.1	large S protein [Hepatitis B virus]	<u>307</u>	8e-83
gi 2627022 dbj BAA23468.1	large surface protein [Hepatitis...]	<u>307</u>	8e-83
gi 2627016 dbj BAA23462.1	large surface protein [Hepatitis...]	<u>307</u>	8e-83
gi 32346270 gb AAO41306.1	preS1/preS2 surface protein [Hep...]	<u>306</u>	1e-82
gi 14488409 gb AAC58021.2	large surface antigen [Hepatitis...]	<u>306</u>	2e-82
gi 3551298 dbj BAA32856.1	envelope protein [Hepatitis B vi...]	<u>306</u>	2e-82
gi 30983650 gb AAP40772.1	large S protein [Hepatitis B virus]	<u>305</u>	3e-82
gi 30026443 gb AAP06638.1	large S protein [Hepatitis B virus]	<u>305</u>	3e-82
gi 1359696 emb CAA66435.1	pre-S1 protein [Hepatitis B virus]	<u>305</u>	3e-82
gi 1934870 emb CAA66700.1	preS1 [Hepatitis B virus]	<u>305</u>	3e-82
gi 2997625 gb AAC35888.1	large S protein [Hepatitis B virus]	<u>305</u>	4e-82

gi 4468851 emb CAE38230.1	surface protein [Hepatitis B virus]	304	5e-82
gi 14488419 gb AAC58026.2	large surface antigen [Hepatitis...]	304	7e-82
gi 397552 emb CAA49217.1	viral polyprotein [Hepatitis B vi...]	303	9e-82
gi 50540990 gb AAF77982.1	pre-S/S protein [Hepatitis B virus]	303	1e-81
gi 17226091 gb AAL37610.1	aberrant pre-S/S protein [Hepati...]	303	1e-81
gi 15419861 gb AAK97204.1	large/middle/small S proteins [H...]	303	1e-81
gi 9247183 gb AAB36407.2	envelope [Hepatitis B virus]	303	1e-81
gi 21759681 gb AAG01441.2	surface protein [Hepatitis B virus]	302	3e-81
gi 15419856 gb AAK97200.1	large/middle/small S proteins [H...]	302	3e-81
gi 17397857 gb AAC58022.3	large surface antigen [Hepatitis...]	301	3e-81
gi 15419841 gb AAK97188.1	large/middle/small S proteins [H...]	301	5e-81
gi 26224727 gb AAN76324.1	large S protein [Hepatitis B virus]	301	6e-81
gi 3551328 dbj BAA32883.1	envelope protein [Hepatitis B vi...]	301	6e-81
gi 50540988 gb AAF77981.1	pre-S/S protein [Hepatitis B virus]	300	8e-81
gi 38603644 dbj EAD02923.1	large surface protein [Hepatiti...]	300	1e-80
gi 7188656 gb AAF27834.1	preS1/preS2 surface protein [Hepa...]	300	1e-80
gi 5019982 gb AAD37959.1	pre-S/S protein [Hepatitis B virus]	300	1e-80
gi 55274838 gb AAV49213.1	large S protein [Hepatitis B virus]	300	1e-80
gi 50540986 gb AAF77980.1	pre-S/S protein [Hepatitis B vir...]	300	1e-80
gi 15419846 gb AAK97192.1	large/middle/small S proteins [H...]	300	1e-80
gi 50540984 gb AAF77979.1	pre-S/S protein [Hepatitis B virus]	299	2e-80
gi 12060188 dbj BAB20446.1	large surface protein [Hepatiti...]	299	2e-80
gi 21759687 gb AAL84821.2	surface protein [Hepatitis B virus]	299	2e-80
gi 7444295 pir T13474	large surface antigen - hepatitis B ...	299	2e-80
gi 22711892 gb AAL84829.3	surface protein [Hepatitis B virus]	298	4e-80
gi 55274852 gb AAV49225.1	large S protein [Hepatitis B virus]	298	5e-80
gi 33113475 gb AAP94272.1	large S protein [Hepatitis B virus]	297	6e-80
gi 33113435 gb AAP94237.1	large S protein [Hepatitis B virus]	297	6e-80
gi 21759679 gb AAG01440.2	surface protein [Hepatitis B virus]	297	8e-80
gi 50540978 gb AAF77976.1	pre-S/S protein [Hepatitis B virus]	297	8e-80
gi 21759685 gb AAL84820.2	surface protein [Hepatitis B virus]	297	8e-80
gi 30026350 gb AAP06558.1	large S protein [Hepatitis B virus]	296	1e-79
gi 4007070 emb CAA10443.1	pre-S1/preS2/S protein [Hepatiti...]	296	1e-79
gi 22711890 gb AAL84828.3	surface protein [Hepatitis B virus]	296	1e-79
gi 6691506 dbj BAE89331.1	envelope protein [Hepatitis B vi...]	296	1e-79
gi 55274845 gb AAV49219.1	large S protein [Hepatitis B virus]	296	1e-79
gi 23884546 gb AAN40008.1	preS1/preS2 surface protein [Hep...]	296	1e-79
gi 4007050 emb CAA10423.1	pre-S1/preS2/S protein [Hepatiti...]	296	1e-79
gi 50540982 gb AAF77978.1	pre-S/S protein [Hepatitis B virus]	296	1e-79
gi 33113467 gb AAP94265.1	large S protein [Hepatitis B virus]	296	2e-79
gi 21759707 gb AAL84831.2	surface protein [Hepatitis B virus]	296	2e-79
gi 33113443 gb AAP94244.1	large S protein [Hepatitis B virus]	295	2e-79
gi 21759691 gb AAL84823.2	surface protein [Hepatitis B virus]	295	2e-79
gi 4007080 emb CAA10455.1	pre-S1/preS2/S protein [Hepatiti...]	295	4e-79
gi 12060195 dbj BAB20452.1	large surface protein [Hepatiti...]	295	4e-79
gi 28812223 dbj BAC65109.1	envelop protein [Hepatitis B vi...]	295	4e-79
gi 9454174 gb AAF87694.1	envelope protein [Hepatitis B virus]	295	4e-79
gi 1814222 gb AAB41952.1	pre-HBsAg protein [Hepatitis B vi...]	295	4e-79
gi 3688321 emb CAA76788.1	surface protein [Hepatitis B vir...]	294	6e-79
gi 4007075 emb CAA10447.1	pre-S1/preS2/S protein [Hepatiti...]	294	6e-79
gi 4007060 emb CAA10431.1	pre-S1/preS2/S protein [Hepatiti...]	294	6e-79
gi 14488417 gb AAC58025.2	large surface antigen [Hepatitis...]	294	6e-79
gi 32330604 gb AAP79832.1	large S protein [Hepatitis B virus]	294	6e-79
gi 3688325 emb CAA76790.1	surface protein [Hepatitis B virus]	294	7e-79
gi 28812218 dbj BAC65105.1	envelop protein [Hepatitis B vi...]	294	7e-79
gi 8926929 dbj BAE98024.1	env protein [Hepatitis B virus]	294	7e-79
gi 6691496 dbj BAE89323.1	envelope protein [Hepatitis B vi...]	294	7e-79
gi 6691501 dbj BAE89327.1	envelope protein [Hepatitis B vi...]	293	9e-79
gi 73572 pir SAVLJ3	large surface antigen - hepatitis B vi...	293	1e-78
gi 73564 pir SAVLVE	large surface antigen - hepatitis B vi...	293	1e-78



gi 4033544 emb CAA10435.1	pre-S1/preS2/S protein [Hepatiti...	293	2e-78
gi 21759709 gb AAL84832.2	surface protein [Hepatitis B virus]	293	2e-78
gi 21759693 gb AAL84824.2	surface protein [Hepatitis B virus]	293	2e-78
gi 1518563 gb AAB47474.1	large S protein	293	2e-78
gi 6063471 dbj BAAS5378.1	preS1/preS2/S envelope [Hepatiti...	293	2e-78
gi 8926932 dbj BAA98026.1	env protein [Hepatitis B virus]	293	2e-78
gi 73573 pir SAVLCP	large surface antigen - hepatitis B vi...	292	2e-78
gi 73571 pir SAVLJ2	large surface antigen - hepatitis B vi...	292	2e-78
gi 32330644 gb AAF79867.1	large S protein [Hepatitis B virus]	292	2e-78
gi 32330628 gb AAF79853.1	large S protein [Hepatitis B virus]	292	2e-78
gi 22711888 gb AAL84827.3	surface protein [Hepatitis B virus]	292	3e-78
gi 22711886 gb AAL84825.3	surface protein [Hepatitis B virus]	291	4e-78
gi 14194416 gb BAK56388.1	preS deletion mutant 2 [Hepatiti...	291	4e-78
gi 11935074 gb BAG41956.1	preS1/preS2 surface protein [Hep...	291	4e-78
gi 15419834 gb AAK97183.1	large/middle/small S proteins [H...	291	4e-78
gi 8926926 dbj BAA98022.1	envelope protein [Hepatitis B vi...	291	4e-78
gi 56090027 gb AAV70947.1	pre-S protein [Hepatitis B virus]	291	5e-78
gi 22135699 gb AAM09040.1	LHBS/MHBS/HBsAg [Hepatitis B virus]	291	5e-78
gi 1518559 gb AAB47472.1	large S protein	291	5e-78
gi 1518553 gb AAB47469.1	large S protein	291	5e-78
gi 33113427 gb AAF94230.1	large S protein [Hepatitis B virus]	291	6e-78
gi 7188650 gb AAF37829.1	preS1/preS2 surface protein [Hepa...	291	6e-78
gi 16117334 dbj BAB69794.1	LHBS/MHBS/HBsAg [Hepatitis B vi...	291	6e-78
gi 2997627 gb AAC35889.1	large S protein [Hepatitis B virus]	291	6e-78
gi 9454169 gb AAF87690.1	envelope protein [Hepatitis B virus]	291	6e-78
gi 1359688 emb CAA66432.1	pre-S1 protein [Hepatitis B viru...	290	8e-78
gi 47499952 gb AAT28732.1	large S protein [Hepatitis B virus]	290	8e-78
gi 47499928 gb AAT28714.1	large S protein [Hepatitis B virus]	290	8e-78
gi 73570 pir SAVLJ1	large surface antigen - hepatitis B vi...	290	8e-78
gi 1518561 gb AAB47473.1	large S protein	290	8e-78
gi 1518555 gb AAB47470.1	large S protein	290	8e-78
gi 33113459 gb AAF94258.1	large S protein [Hepatitis B virus]	290	1e-77
gi 3688323 emb CAA76789.1	surface protein [Hepatitis B virus]	290	1e-77
gi 3688315 emb CAA76785.1	surface protein [Hepatitis B vir...	290	1e-77
gi 14194414 gb AAK56387.1	preS deletion mutant 1 [Hepatiti...	290	1e-77
gi 32330612 gb AAF79839.1	large S protein [Hepatitis B virus]	290	1e-77
gi 4704321 emb CAB41701.1	pre-S and S proteins [Hepatitis ...]	290	1e-77
gi 37223476 gb AAQ90276.1	surface antigen protein [Hepatit...	290	1e-77
gi 37223448 gb AAQ90262.1	surface antigen protein [Hepatit...	290	1e-77
gi 22135729 gb AAM09064.1	LHBS/MHBS/HBsAg [Hepatitis B virus]	290	1e-77
gi 1514494 emb CAA68861.1	PreS [Hepatitis B virus]	290	1e-77
gi 8052217 emb CAA10439.2	pre-S1/preS2/S protein [Hepatiti...	290	1e-77
gi 38483604 dbj EAD02320.1	large surface protein [Hepatiti...	290	1e-77
gi 32261195 dbj EAC78512.1	pre-S and S protein [Hepatitis ...]	290	1e-77
gi 32261180 dbj EAC78503.1	pre-S and S proteins [Hepatitis...	290	1e-77
gi 32261170 dbj EAC78495.1	pre-S and S proteins [Hepatitis...	290	1e-77
gi 47499896 gb AAT28690.1	large S protein [Hepatitis B virus]	290	1e-77
gi 47499892 gb AAT28687.1	large S protein [Hepatitis B virus]	290	1e-77
gi 32330620 gb AAF79846.1	large S protein [Hepatitis B virus]	290	1e-77
gi 527439 emb CAA84788.1	surface protein S [Hepatitis B vi...	289	2e-77
gi 2664399 emb CAA05872.1	surface protein [Hepatitis B virus]	289	2e-77
gi 18621123 emb CAC87013.1	large surface antigen [Hepatiti...	289	2e-77
gi 73560 pir SAVLAS	large surface antigen - hepatitis B vi...	289	2e-77
gi 2829157 gb AAC40811.1	pre-S1 protein [Hepatitis B virus]	289	2e-77
gi 18146672 dbj BAB82393.1	LHBS [Hepatitis B virus]	289	2e-77
gi 37223436 gb AAQ90256.1	surface antigen protein [Hepatit...	289	2e-77
gi 22135714 gb AAM09052.1	LHBS/MHBS/HBsAg [Hepatitis B virus]	289	2e-77
gi 3688317 emb CAA76786.1	surface protein [Hepatitis B virus]	289	2e-77
gi 1359680 emb CAA66425.1	pre-S1 protein [Hepatitis B virus]	289	2e-77
gi 47499948 gb AAT28729.1	large S protein [Hepatitis B virus]	289	2e-77

gi 47499936 gb AAT28720.1	large S protein [Hepatitis B virus]	289	2e-77
gi 47499932 gb AAT28717.1	large S protein [Hepatitis B virus]	289	2e-77
gi 47499920 gb AAT28708.1	large S protein [Hepatitis B virus]	289	2e-77
gi 47499916 gb AAT28705.1	large S protein [Hepatitis B virus]	289	2e-77
gi 1518557 gb AAB47471.1	large S protein	289	2e-77
gi 54125537 gb AAV30534.1	S protein [Hepatitis B virus]	288	3e-77
gi 21759705 gb AAL84830.2	surface protein [Hepatitis B virus]	288	3e-77
gi 21759689 gb AAL84822.2	surface protein [Hepatitis B virus]	288	3e-77
gi 19849036 gb AAL99438.1	pre-S1/pre-S2/S protein [Hepatit...	288	3e-77
gi 6983936 gb AAF34735.1	preS1/preS2/HBsAg protein [Hepati...	288	3e-77
gi 6063466 dbj BAA85374.1	preS1/preS2/S envelope [Hepatiti...	288	3e-77
gi 11191921 dbj BAB17998.1	LHBs [Hepatitis B virus]	288	3e-77
gi 33113451 gb AAP94251.1	large S protein [Hepatitis B virus]	288	4e-77
gi 32330636 gb AAP79860.1	large S protein [Hepatitis B virus]	288	4e-77
gi 329724 gb AAA45526.1	B1 mutated molecule; ORF2	288	4e-77
gi 37223468 gb AAQ90272.1	surface antigen protein [Hepatit...	288	5e-77
gi 56090034 gb AAV70953.1	pre-S protein [Hepatitis B virus]	288	5e-77
gi 56090023 gb AAV70944.1	pre-S protein [Hepatitis B virus]	288	5e-77
gi 452612 emb CAA54515.1	HBV surface proteins [Hepatitis B...	288	5e-77
gi 21759683 gb AAG01444.2	surface protein [Hepatitis B virus]	288	5e-77
gi 21759677 gb AAG15188.2	surface protein [Hepatitis B virus]	288	5e-77
gi 18252562 gb AAL66328.1	HBsAg [Hepatitis B virus]	288	5e-77
gi 32261175 dbj BAC78499.1	pre-S and S proteins [Hepatitis...	288	5e-77
gi 16117324 dbj EAB69786.1	LHBs/MHBs/SHBs [Hepatitis B virus]	288	5e-77
gi 73561 pir SAVLA1	large surface antigen - hepatitis B vi...	288	5e-77
gi 59426 emb CAA49455.1	LHBs [Hepatitis B virus] >gi 47839...	287	7e-77
gi 37223466 gb AAQ90271.1	surface antigen protein [Hepatit...	287	7e-77
gi 22135704 gb AAM09044.1	LHBs/MHBs/SHBs [Hepatitis B virus]	287	7e-77
gi 22135694 gb AAM09036.1	LHBs/MHBs/SHBs [Hepatitis B virus]	287	7e-77
gi 4140296 emb CAA10540.1	surface antigen precursor [Hepat...	287	7e-77
gi 4033549 emb CAA10451.1	pre-S1/preS2/S protein [Hepatiti...	287	7e-77
gi 27466513 gb AAO12598.1	preS1 [Hepatitis B virus]	287	7e-77
gi 32261187 dbj BAC78508.1	pre-S and S protein [Hepatitis ...]	287	7e-77
gi 16903380 gb AAL30461.1	large surface protein [Hepatitis...	287	7e-77
gi 5532395 gb AAD44711.1	large S protein [Hepatitis B virus]	287	7e-77
gi 15425699 dbj BAB64326.1	preS1/preS2/HBsAg protein [Hepa...	287	7e-77
gi 18146666 dbj BAB82388.1	LHBs [Hepatitis B virus]	287	7e-77
gi 34761136 gb AAQ81925.1	surface protein [Hepatitis B virus]	287	9e-77
gi 55274831 gb AAV49207.1	large S protein [Hepatitis B virus]	287	9e-77
gi 59430 emb CAA46349.1	pre S1/pre S2/S ORF [Hepatitis B v...	287	9e-77
gi 38374295 gb AAR19347.1	large surface protein [Hepatitis...	286	1e-76
gi 38374286 gb AAR19340.1	large surface protein [Hepatitis...	286	1e-76
gi 37223460 gb AAQ90268.1	surface antigen protein [Hepatit...	286	1e-76
gi 138799 sp F03138 VMSA_HPBVY	Major surface antigen precur...	286	1e-76
gi 11191961 dbj EAB18033.1	LHBs [Hepatitis B virus] >gi 11...	286	1e-76
gi 11191905 dbj BAB17984.1	LHBs [Hepatitis B virus]	286	1e-76
gi 11191865 dbj BAB17949.1	LHBs [Hepatitis B virus] >gi 11...	286	1e-76
gi 8926935 dbj RAA98028.1	env protein [Hepatitis B virus]	286	1e-76
gi 229013 prf 1815308A	pre-S protein	286	1e-76
gi 37223474 gb AAQ90275.1	surface antigen protein [Hepatit...	286	1e-76
gi 37223458 gb AAQ90267.1	surface antigen protein [Hepatit...	286	1e-76
gi 54125531 gb AAV30529.1	S protein [Hepatitis B virus]	286	1e-76
gi 3688319 emb CAA76787.1	surface protein [Hepatitis B virus]	286	1e-76
gi 27465567 gb AAO12626.1	preS1 [Hepatitis B virus] >gi 27...	286	1e-76
gi 32261205 dbj BAC78517.1	pre-S and S protein [Hepatitis ...]	286	1e-76
gi 6692513 gb AAF24681.1	large S protein [Hepatitis B virus]	286	1e-76
gi 32261191 dbj BAC78510.1	pre-S and S protein [Hepatitis ...]	286	2e-76

## Alignments

☐ >[gi|3551333|dbj|BAA32887.1](#) envelope protein [Hepatitis B virus]  
Length = 400

Score = 360 bits (923), Expect = 1e-98  
Identities = 167/174 (95%), Positives = 167/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV  
Sbjct: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

☐ >[gi|55420282|gb|AAV52022.1](#) envelope protein [Hepatitis B virus]  
Length = 400

Score = 358 bits (919), Expect = 3e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV  
Sbjct: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
G FGPFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GTFGPFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

☐ >[gi|32346278|gb|AAO41312.1](#) preS1/preS2 surface protein [Hepatitis B virus]  
Length = 400


Score = 358 bits (919), Expect = 3e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV  
Sbjct: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174


 >gi|30983637|gb|AAP40761.1| truncated large S protein [Hepatitis B virus]  
Length = 355

Score = 358 bits (919), Expect = 3e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPEANQVG 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPEANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPEANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174


 >gi|30026457|gb|AAP06650.1| truncated large S protein [Hepatitis B virus]  
Length = 242

Score = 358 bits (919), Expect = 3e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPEANQVG 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPEANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPEANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

 >gi|14290242|gb|AAK59317.1| surface antigen [Hepatitis B virus]  
Length = 400

Score = 358 bits (919), Expect = 3e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPEANQVG 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPEANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPEANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNVPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNVPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNVPVPTTASPISSIFSRTGDPAPN 174

>gi|15340848|gb|AAK94664.1| HBsAg [Hepatitis B virus]  
Length = 400

Score = 358 bits (919), Expect = 3e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60  
  
Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNVPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNVPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNVPVPTTASPISSIFSRTGDPAPN 174

>gi|15340846|gb|AAK94663.1| HBsAg [Hepatitis B virus]  
gi|15340844|gb|AAK94662.1| HBsAg [Hepatitis B virus]  
Length = 400

Score = 358 bits (919), Expect = 3e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60  
  
Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNVPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNVPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNVPVPTTASPISSIFSRTGDPAPN 174

>gi|15340842|gb|AAK94661.1| HBsAg [Hepatitis B virus]  
Length = 400


Score = 358 bits (919), Expect = 3e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60  
  
Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM

Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN

Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

 >gi|13491149|gb|AAK27855.1| large S protein [Hepatitis B virus]  
Length = 400

Score = 358 bits (919), Expect = 3e-98

Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG


Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM

Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN

Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

 >gi|3551303|dbj|BAA32860.1| envelope protein [Hepatitis B virus]  
Length = 400

Score = 358 bits (919), Expect = 3e-98

Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG


Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM

Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN

Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

 >gi|11041688|dbj|BAB17299.1| large surface antigen [Hepatitis B virus]  
Length = 400

Score = 358 bits (919), Expect = 3e-98

Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG

Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120

GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
 Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120  
 Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
 Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|11041682|dbj|BAB17297.1| large surface antigen [Hepatitis B virus]  
 Length = 400

Score = 358 bits (919), Expect = 3e-98  
 Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGV 60  
 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVG  
 Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGA 60  
 Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
 GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
 Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120  
 Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
 Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|6063441|dbj|BAA85358.1| preS1/preS2/S envelope [Hepatitis B virus]  
 Length = 400

Score = 358 bits (919), Expect = 3e-98  
 Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGV 60  
 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVG  
 Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGA 60  
 Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
 GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
 Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120  
 Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
 Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|2626995|dbj|BAA23443.1| large surface protein [Hepatitis B virus]  
 gi|2626987|dbj|BAA23436.1| large surface protein [Hepatitis B virus]  
 Length = 400

Score = 358 bits (919), Expect = 3e-98  
 Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGV 60  
 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVG  
 Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|9082086|gb|AA082724.1| large surface antigen [Hepatitis B virus]  
Length = 400

Score = 358 bits (919), Expect = 3e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWEANQVGV 60  
MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWEANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWEANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|30026392|gb|AAP06594.1| large S protein [Hepatitis B virus]  
Length = 400

Score = 358 bits (918), Expect = 4e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWEANQVGV 60  
MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWEANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWEANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|22203514|gb|AAMS2187.1| preS1 [Hepatitis B virus]  
Length = 400

Score = 358 bits (918), Expect = 4e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWEANQVGV 60  
MGGWSSKPRQGMGTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWEANQVG



Sbjct: 1 MGGWSSKPRQMGNTNLSVNPGLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM

Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPVAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN

Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|18252577|gb|AA166340.1| HBsAg [Hepatitis B virus]  
gi|18252544|gb|AA166313.1| HBsAg [Hepatitis B virus]  
Length = 400

Score = 358 bits (918), Expect = 4e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQMGNTNLSVNPGLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQMGNTNLSVNPGLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG

Sbjct: 1 MGGWSSKPRQMGNTNLSVNPGLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM

Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPVAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN

Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|560073|dbj|BAAG4920.1| HBV surface proteins [Hepatitis B virus]  
Length = 242

Score = 358 bits (918), Expect = 4e-98  
Identities = 166/174 (95%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQMGNTNLSVNPGLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQMGNTNLSVNPGLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG

Sbjct: 1 MGGWSSKPRQMGNTNLSVNPGLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM

Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPVAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN

Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|55420273|gb|AAV52015.1| envelope protein [Hepatitis B virus]  
Length = 400

Score = 357 bits (917), Expect = 5e-98  
Identities = 165/174 (94%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQMGMTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQMGMTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQMGMTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGI LTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGI LTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGI LTTVPAAPFPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|15340838|gb|AAK94659.1| HBsAg [Hepatitis B virus]  
Length = 400

Score = 357 bits (916), Expect = 7e-98  
Identities = 165/174 (94%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQMGMTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQMGMTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQMGMTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGI LTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGI LTTV STNRQ+GRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGI LTTVPAAPFPASTNRQTGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|15340836|gb|AAK94658.1| HBsAg [Hepatitis B virus]  
Length = 400

Score = 357 bits (916), Expect = 7e-98  
Identities = 165/174 (94%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQMGMTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQMGMTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQMGMTNLSVNPPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGI LTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGI LTTV STNRQ+GRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGI LTTVPAAPFPASTNRQTGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|15340834|gb|AAK94657.1| HBsAg [Hepatitis B virus]  
Length = 400

Score = 357 bits (916), Expect = 7e-98  
Identities = 165/174 (94%), Positives = 166/174 (95%)


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Query: 1   MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60
          MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG
Sbjct: 1   MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPLRDSHPQAM 120
          GAFGPGFTPPHGGLLGWSPQAQGILTTV          STNRQ+GRQPTPISPLRDSHPQAM
Sbjct: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQTGRQPTPISPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174
          QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

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 >[gi|3551388|dbj|BAA32958.1](#) envelope protein [Hepatitis B virus]  
Length = 400

Score = 357 bits (916), Expect = 7e-98  
Identities = 165/174 (94%), Positives = 166/174 (95%)


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Query: 1   MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60
          MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG
Sbjct: 1   MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPLRDSHPQAM 120
          GAFGPGFTPPHGGLLGWSPQAQGILTTV          STNRQSGRQPTPISPLRDSHPQAM
Sbjct: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174
          QWNSTTFHQALLDPRV+GLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN
Sbjct: 121 QWNSTTFHQALLDPRVKGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

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 >[gi|30026450|gb|AAFC6644.1](#) large S protein [Hepatitis B virus]  
Length = 400

Score = 357 bits (915), Expect = 9e-98  
Identities = 165/174 (94%), Positives = 165/174 (94%)


```

Query: 1   MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60
          MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG
Sbjct: 1   MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPLRDSHPQAM 120
          GAFGPGFTPPHGGLLGWSPQAQG LTTV          STNRQSGRQPTPISPLRDSHPQAM
Sbjct: 61  GAFGPGFTPPHGGLLGWSPQAQGTLTTVPAAHPPASTNRQSGRQPTPISPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174
          QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

```

 >[gi|29469134|gb|AAO63480.1](#) envelope protein [Hepatitis B virus]  
Length = 400

Score = 356 bits (914), Expect = 1e-97

Identities = 165/174 (94%), Positives = 166/174 (95%)

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Query: 1  MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGV 60
          MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEA+QVG
Sbjct: 1  MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEAHQVGA 60

Query: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPLRDSHPQAM 120
          GAFGPGFTPPHGGLLGWSPQAQGILTTV          STNRQSGRQPTPISPLRDSHPQAM
Sbjct: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174
          QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

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>gi|6063456|dbj|BAA85366.1 preS1/preS2/S envelope [Hepatitis B virus]  
gi|6063436|dbj|BAA85354.1 preS1/preS2/S envelope [Hepatitis B virus]  
 Length = 400

Score = 356 bits (914), Expect = 1e-97  
 Identities = 165/174 (94%), Positives = 165/174 (94%)

```

Query: 1  MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGV 60
          MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVG
Sbjct: 1  MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGA 60

Query: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPLRDSHPQAM 120
          GAFGPGFTPPHGGLLGWSPQAQGILTTV          STNRQSGRQPTPISPLRDSHPQAM
Sbjct: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174
          QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

```

>gi|6063431|dbj|BAA85350.1 preS1/preS2/S envelope [Hepatitis B virus]  
 Length = 400

Score = 356 bits (914), Expect = 1e-97  
 Identities = 165/174 (94%), Positives = 165/174 (94%)

```

Query: 1  MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGV 60
          MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVG
Sbjct: 1  MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPPEANQVGA 60

Query: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPLRDSHPQAM 120
          GAFGPGFTPPHGGLLGWSPQAQGILTTV          STNRQSGRQPTPISPLRDSHPQAM
Sbjct: 61  GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174
          QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

```

>gi|55420287|gb|AAV52026.1 envelope protein [Hepatitis B virus]  
 Length = 400

Score = 356 bits (913), Expect = 2e-97  
Identities = 165/174 (94%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPVSTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTV+PVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVSPVPTTASPISSIFSRTGDPAPN 174

>gi|32346282|gb|AAO41315.1| preS1/preS2 surface protein [Hepatitis B virus]  
Length = 400

Score = 356 bits (913), Expect = 2e-97  
Identities = 165/174 (94%), Positives = 165/174 (94%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNS TFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSKTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|3582372|dbj|BAA32923.1| envelope protein [Hepatitis B virus]  
Length = 400

Score = 356 bits (913), Expect = 2e-97  
Identities = 165/174 (94%), Positives = 165/174 (94%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQG LTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGALTTVPVAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|3551358|dbj|BAA32907.1| envelope protein [Hepatitis B virus]

Length = 400

Score = 356 bits (913), Expect = 2e-97

Identities = 165/174 (94%), Positives = 165/174 (94%)

Query: 1 MGGWSSKPRQMGMTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQMGMTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQMGMTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQG LTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGALTTPVAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|3551313|dbj|BAA32868.1| envelope protein [Hepatitis B virus]  
Length = 400

Score = 356 bits (913), Expect = 2e-97

Identities = 165/174 (94%), Positives = 165/174 (94%)

Query: 1 MGGWSSKPRQMGMTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPRQMGMTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRQMGMTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILT V STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTAVPVAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174

>gi|29469139|gb|AA063484.1| envelope protein [Hepatitis B virus]  
Length = 400

Score = 355 bits (912), Expect = 2e-97

Identities = 164/174 (94%), Positives = 166/174 (95%)

Query: 1 MGGWSSKPRQMGMTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGV 60  
MGGWSSKPR+GMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVG  
Sbjct: 1 MGGWSSKPRKGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWPANQVGA 60

Query: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVXXXXXXXXSTNRQSGRQPTPISPPLRDSHPQAM 120  
GAFGPGFTPPHGGLLGWSPQAQGILTTV STNRQSGRQPTPISPPLRDSHPQAM  
Sbjct: 61 GAFGPGFTPPHGGLLGWSPQAQGILTTVPAAPPPASTNRQSGRQPTPISPPLRDSHPQAM 120

Query: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFSRTGDPAPN 174  
QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFS+TGDPAPN  
Sbjct: 121 QWNSTTFHQALLDPRVRGLYFPAGGSSSGTVNPVPTTASPISSIFS+TGDPAPN 174



# results of BLAST

BLASTP 2.2.10 [Oct-19-2004]

SEQ ID NO: 11 H15D ~~H123D~~**Reference:**

Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schäffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

RID: 1104167823-22872-17250394511.BLASTQ4

**Query=**

(174 letters)

**Database:** All non-redundant GenBank CDS

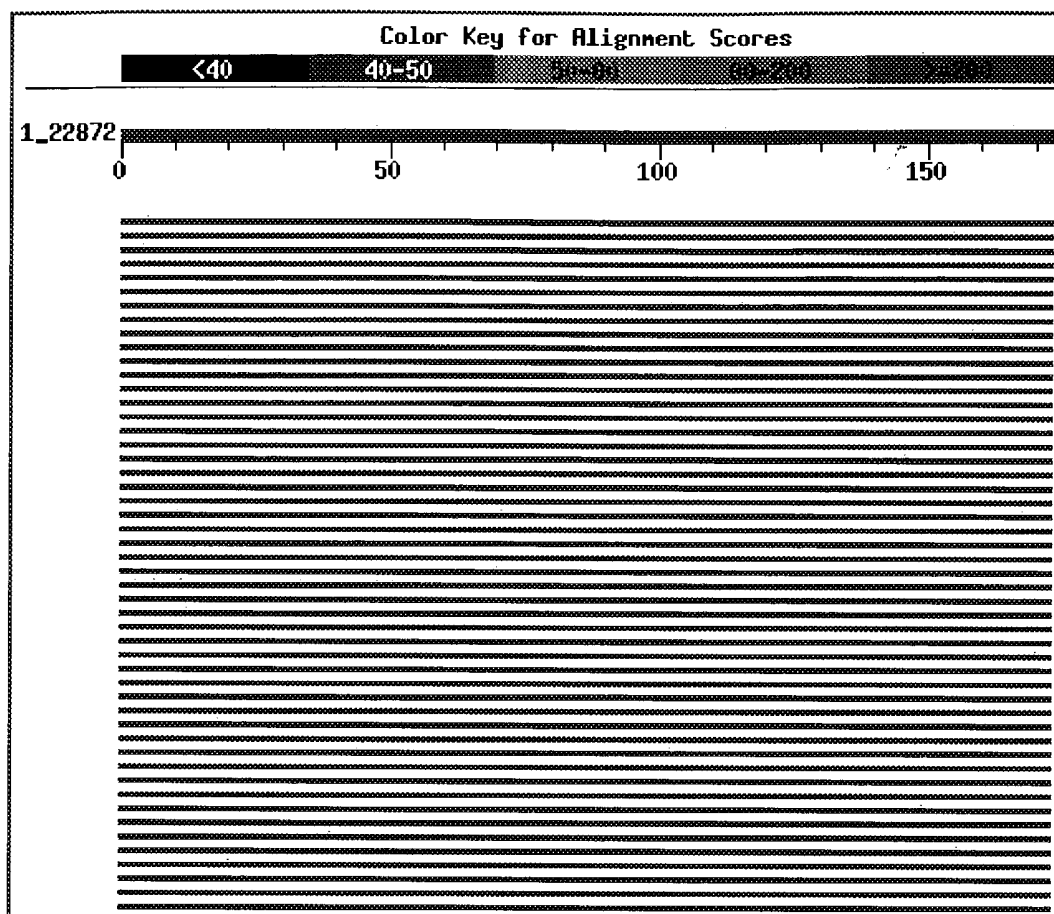
translations+PDB+SwissProt+PIR+PRF excluding environmental samples  
2,257,396 sequences; 761,794,665 total letters

If you have any problems or questions with the results of this search  
please refer to the [BLAST FAQs](#)

[Taxonomy reports](#)

## Distribution of 500 Blast Hits on the Query Sequence

Mouse-over to show defline and scores. Click to show alignments



Sequences producing significant alignments:

Score E  
(bits) Value

gi 32346278 gb AAO41312.1	preS1/preS2 surface protein [Hep...	313	1e-84
gi 30983637 gb AAP40761.1	truncated large S protein [Hepat...	313	1e-84
gi 30026457 gb AAP06650.1	truncated large S protein [Hepat...	313	1e-84
gi 14290242 gb AAK59317.1	surface antigen [Hepatitis B virus]	313	1e-84
gi 15340848 gb AAK94664.1	HBsAg [Hepatitis B virus]	313	1e-84
gi 15340846 gb AAK94663.1	HBsAg [Hepatitis B virus] >gi 15...	313	1e-84
gi 15340842 gb AAK94661.1	HBsAg [Hepatitis B virus]	313	1e-84
gi 13491149 gb AAK27855.1	large S protein [Hepatitis B virus]	313	1e-84
gi 3551303 dbj BAA32860.1	envelope protein [Hepatitis B vi...	313	1e-84
gi 11041688 dbj BAE17299.1	large surface antigen [Hepatiti...	313	1e-84
gi 11041682 dbj BAE17297.1	large surface antigen [Hepatiti...	312	1e-84
gi 6063441 dbj BAA85358.1	preS1/preS2/S envelope [Hepatiti...	313	1e-84
gi 2626995 dbj BAA23443.1	large surface protein [Hepatitis...	313	1e-84
gi 9082086 gb AAF82724.1	large surface antigen [Hepatitis ...]	313	1e-84
gi 55420282 gb AAV52022.1	envelope protein [Hepatitis B vi...	312	2e-84
gi 30026392 gb AAP06594.1	large S protein [Hepatitis B virus]	312	2e-84
gi 22203514 gb AAM92187.1	preS1 [Hepatitis B virus]	312	2e-84
gi 18252577 gb AAL66340.1	HBsAg [Hepatitis B virus] >gi 18...	312	2e-84
gi 3551333 dbj BAA32887.1	envelope protein [Hepatitis B vi...	312	2e-84
gi 560073 dbj BAA04920.1	HBV surface proteins [Hepatitis B...	312	2e-84
gi 55420273 gb AAV52015.1	envelope protein [Hepatitis B vi...	312	3e-84
gi 15340838 gb AAK94659.1	HBsAg [Hepatitis B virus]	311	3e-84
gi 15340836 gb AAK94658.1	HBsAg [Hepatitis B virus]	311	3e-84



gi 15340834 gb AAK94657.1	HBsAg [Hepatitis B virus]	311	3e-84
gi 3551388 dbj BAA32958.1	envelope protein [Hepatitis B vi...	311	3e-84
gi 30026450 gb AAP06644.1	large S protein [Hepatitis B virus]	311	4e-84
gi 30026377 gb AAP06581.1	large S protein [Hepatitis B virus]	311	4e-84
gi 29469134 gb AAO63480.1	envelope protein [Hepatitis B vi...	311	6e-84
gi 6063456 dbj BAA85366.1	preS1/preS2/S envelope [Hepatiti...	311	6e-84
gi 6063431 dbj BAA85350.1	preS1/preS2/S envelope [Hepatiti...	311	6e-84
gi 55420287 gb AAV52026.1	envelope protein [Hepatitis B vi...	310	7e-84
gi 32346282 gb AAO41315.1	preS1/preS2 surface protein [Hep...	310	7e-84
gi 3582372 dbj BAA32923.1	envelope protein [Hepatitis B vi...	310	7e-84
gi 3551358 dbj BAA32907.1	envelope protein [Hepatitis B vi...	310	7e-84
gi 3551313 dbj BAA32968.1	envelope protein [Hepatitis B vi...	310	7e-84
gi 29469133 gb AAO63484.1	envelope protein [Hepatitis B vi...	310	1e-83
gi 18252557 gb AAL66324.1	HBsAg [Hepatitis B virus] >gi 18...	310	1e-83
gi 2627010 dbj BAA23456.1	large surface protein [Hepatitis...	310	1e-83
gi 2627003 dbj BAA23450.1	large surface protein [Hepatitis...	310	1e-83
gi 29469144 gb AAO63488.1	envelope protein [Hepatitis B vi...	310	1e-83
gi 73562 pir SAVIA	large surface antigen - hepatitis B vir...	310	1e-83
gi 2982336 gb AAC06358.1	large surface antigen [Hepatitis ...	310	1e-83
gi 3551373 dbj BAA32940.1	envelope protein [Hepatitis B vi...	310	1e-83
gi 3551348 dbj BAA32899.1	envelope protein [Hepatitis B vi...	310	1e-83
gi 6063426 dbj BAA85383.1	preS1/preS2/S envelope protein [...	310	1e-83
gi 13991876 gb AAK51542.1	envelope protein [Hepatitis B vi...	309	2e-83
gi 13991866 gb AAK51534.1	envelope protein [Hepatitis B vi...	309	2e-83
gi 18252537 gb AAL66308.1	large/middle/small surface antig...	309	2e-83
gi 51449952 gb AAU01945.1	preS1/preS2 surface [Hepatitis B...	309	2e-83
gi 3551383 dbj BAA32948.1	envelope protein [Hepatitis B vi...	309	2e-83
gi 3582380 dbj BAA32929.1	envelope protein [Hepatitis B vi...	309	2e-83
gi 11041685 dbj BAB17298.1	large surface antigen [Hepatiti...	309	2e-83
gi 560093 dbj BAA04936.1	HBV surface proteins [Hepatitis B...	309	2e-83
gi 457783 emb CAA37114.1	unnamed protein product [Hepatiti...	308	3e-83
gi 3582408 dbj BAA32973.1	envelope protein [Hepatitis B vi...	308	3e-83
gi 3551279 dbj BAA32841.1	envelope protein [Hepatitis B vi...	308	3e-83
gi 560088 dbj BAA04932.1	HBV surface proteins [Hepatitis B...	308	3e-83
gi 560083 dbj BAA04928.1	HBV surface proteins [Hepatitis B...	308	3e-83
gi 30026370 gb AAP06575.1	large S protein [Hepatitis B virus]	308	5e-83
gi 6538780 gb AAF15903.1	large envelope protein [Hepatitis...	308	5e-83
gi 3582360 dbj BAA32914.1	envelope protein [Hepatitis B vi...	308	5e-83
gi 3551343 dbj BAA32895.1	envelope protein [Hepatitis B vi...	308	5e-83
gi 55420278 gb AAV52019.1	envelope protein [Hepatitis B vi...	307	6e-83
gi 16151163 gb AAL13124.1	pre-S1/pre-S2 protein [synthetic...	307	6e-83
gi 15072541 gb AAK81689.1	pre-S1/pre-S2 protein [Hepatitis...	307	6e-83
gi 313779 emb CAA25747.1	unnamed protein product [Hepatiti...	307	8e-83
gi 12060437 dbj BAB20608.1	surface protein [Hepatitis B vi...	307	8e-83
gi 138790 sp P12934 VMSA_HPBV4	MAJOR SURFACE ANTIGEN PRECURSOR	307	8e-83
gi 55978959 gb AAV68938.1	truncated large S protein [Hepat...	306	1e-82
gi 32250978 gb AAP74327.1	large S protein [Hepatitis B virus]	306	1e-82
gi 23194250 gb AAN15072.1	pre-S1 protein [Hepatitis B virus]	306	1e-82
gi 18252590 gb AAL66347.1	PreS1+PreS2+S [Hepatitis B virus]	306	1e-82
gi 3582396 dbj BAA32964.1	envelope protein [Hepatitis B vi...	306	1e-82
gi 560078 dbj BAA04924.1	HBV surface proteins [Hepatitis B...	306	1e-82
gi 15340840 gb AAK94660.1	HBsAg [Hepatitis B virus]	306	1e-82
gi 3582388 dbj BAA32951.1	envelope protein [Hepatitis B vi...	306	1e-82
gi 12060442 dbj BAB20612.1	surface protein [Hepatitis B vi...	306	2e-82
gi 3582364 dbj BAA32917.1	envelope protein [Hepatitis B vi...	306	2e-82
gi 3551294 dbj BAA32853.1	envelope protein [Hepatitis B vi...	306	2e-82
gi 3551269 dbj BAA32833.1	envelope protein [Hepatitis B vi...	306	2e-82
gi 2288873 dbj BAA21666.1	surface antigen [Hepatitis B virus]	306	2e-82
gi 22415736 gb AAM95243.1	large/middle/small surface antig...	305	2e-82
gi 16751308 gb AAL25948.1	preS1/preS2/S protein [Hepatitis...	305	3e-82

gi 30027696 gb AAP13937.1	preS1/preS2 [Hepatitis B virus]	305	3e-82
gi 3582368 dbj BAA32920.1	envelope protein [Hepatitis B vi...	305	3e-82
gi 3551284 dbj BAA32845.1	envelope protein [Hepatitis B vi...	305	3e-82
gi 32346294 gb AAO41324.1	preS1/preS2 surface protein [Hep...	305	4e-82
gi 22651881 gb AAN03492.1	surface antigen [Hepatitis B virus]	305	4e-82
gi 479848 pir S35528	surface antigen - hepatitis B virus (...)	305	4e-82
gi 3582356 dbj BAA32875.1	envelope protein [Hepatitis B vi...	305	4e-82
gi 11041679 dbj BAB17296.1	large surface antigen [Hepatiti...	305	4e-82
gi 6063461 dbj BAA85370.1	preS1/preS2/S envelope [Hepatiti...	305	4e-82
gi 32346262 gb AAO41300.1	preS1/preS2 surface protein [Hep...	304	5e-82
gi 9247182 gb AAB36406.2	envelope [Hepatitis B virus]	304	7e-82
gi 39979296 dbj BAD05125.1	large surface protein [Hepatiti...	303	9e-82
gi 4206638 gb AAD11756.1	surface antigen [Hepatitis B virus]	303	1e-81
gi 21624239 dbj EAC01110.1	large S protein [Hepatitis B vi...	303	1e-81
gi 12246965 gb AAG49664.1	large S protein [Hepatitis B virus]	303	2e-81
gi 12246959 gb AAG49659.1	large S protein [Hepatitis B virus]	303	2e-81
gi 6006323 dbj BAA84820.1	envelope protein [Hepatitis B vi...	303	2e-81
gi 3582376 dbj BAA32926.1	envelope protein [Hepatitis B vi...	303	2e-81
gi 30026356 gb AAP06563.1	large S protein [Hepatitis B vir...	302	3e-81
gi 18252567 gb AAL66332.1	HBsAg [Hepatitis B virus]	302	3e-81
gi 18252542 gb AAL66312.1	large/middle/small surface antig...	302	3e-81
gi 30026408 gb AAP06608.1	large S protein [Hepatitis B virus]	301	5e-81
gi 51449947 gb AAU01941.1	preS1/preS2 surface [Hepatitis B...	301	5e-81
gi 3551363 dbj BAA32911.1	envelope protein [Hepatitis B vi...	301	5e-81
gi 21624232 dbj EAC01104.1	large S protein [Hepatitis B vi...	301	5e-81
gi 12247013 gb AAG49706.1	large S protein [Hepatitis B vir...	301	6e-81
gi 21218026 dbj BAB96527.1	large S protein [Hepatitis B vi...	300	8e-81
gi 21218024 dbj BAB96526.1	large S protein [Hepatitis B vi...	300	8e-81
gi 12698738 gb AAK01667.1	large surface antigen [Hepatitis...	300	1e-80
gi 3551353 dbj BAA32903.1	envelope protein [Hepatitis B vi...	300	1e-80
gi 30026322 gb AAP06534.1	large S protein [Hepatitis B virus]	300	1e-80
gi 22212852 gb AAM94412.1	surface protein [Hepatitis B virus]	300	1e-80
gi 18845082 gb AAL79542.1	large S protein [Hepatitis B virus]	300	1e-80
gi 12698740 gb AAK01668.1	large surface antigen [Hepatitis...	300	1e-80
gi 30983623 gb AAP40749.1	large S protein [Hepatitis B virus]	299	2e-80
gi 39748645 dbj BAD05003.1	large surface protein [Hepatiti...	299	2e-80
gi 12247004 gb AAG49698.1	large S protein [Hepatitis B virus]	298	4e-80
gi 6006332 dbj BAA84826.1	envelope protein [Hepatitis B vi...	298	4e-80
gi 39979301 dbj BAD05129.1	large surface protein [Hepatiti...	298	5e-80
gi 39840926 dbj BAD05030.1	large surface protein [Hepatiti...	297	7e-80
gi 12246989 gb AAG49685.1	large S protein [Hepatitis B virus]	297	7e-80
gi 22212854 gb AAM94413.1	surface protein [Hepatitis B virus]	297	8e-80
gi 3582392 dbj BAA32954.1	envelope protein [Hepatitis B vi...	297	8e-80
gi 16751313 gb AAL25952.1	preS1/preS2/S protein [Hepatitis...	296	1e-79
gi 42558179 dbj BAD11079.1	large surface protein [Hepatiti...	296	1e-79
gi 29169232 gb AAO65967.1	preS1/preS2/S protein [Hepatitis...	294	6e-79
gi 41152698 dbj BAD08227.1	large surface protein [Hepatiti...	294	7e-79
gi 10443834 gb AAG17596.1	large S protein [Hepatitis B virus]	293	2e-78
gi 10443842 gb AAG17603.1	large S protein [Hepatitis B virus]	292	2e-78
gi 39748640 dbj BAD04999.1	large surface protein [Hepatiti...	292	3e-78
gi 39748635 dbj BAD04995.1	large surface protein [Hepatiti...	292	3e-78
gi 27466481 gb AAO12605.1	preS1 [Hepatitis B virus] >gi 27...	289	2e-77
gi 27466428 gb AAO12549.1	preS1 [Hepatitis B virus]	289	2e-77
gi 27466420 gb AAO12542.1	preS1 [Hepatitis B virus]	289	2e-77
gi 329726 gb AAA45527.1	B1 recombinant molecule; ORF3	289	2e-77
gi 34761126 gb AAQ81917.1	surface protein [Hepatitis B virus]	288	3e-77
gi 6537314 gb AAF15597.1	truncated large envelope protein ...	288	4e-77
gi 38000037 gb AAR07101.1	large S protein [Hepatitis B virus]	288	5e-77
gi 38000021 gb AAR07094.1	large S protein [Hepatitis B virus]	288	5e-77
gi 1518547 gb AAB47466.1	large S protein	288	5e-77

gi 895688 gb AAA69680.1	surface protein [Hepatitis B virus...	287	7e-77
gi 55420292 gb AAV52030.1	envelope protein [Hepatitis B vi...	287	9e-77
gi 55420296 gb AAV52033.1	envelope protein [Hepatitis B vi...	286	1e-76
gi 21541276 emb CAD34587.1	surface antigen [Hepatitis B vi...	286	1e-76
gi 6466903 gb AAF05722.2	large envelope protein [Hepatitis...	286	2e-76
gi 5114088 gb AAD40219.1	PreS1+PreS2+HBsAg [Hepatitis B vi...	286	2e-76
gi 1518551 gb AAB47468.1	large S protein	285	3e-76
gi 34761131 gb AAQ81921.1	surface protein [Hepatitis B virus]	285	3e-76
gi 10443826 gb AAG17589.1	large S protein [Hepatitis B virus]	285	3e-76
gi 38000041 gb AAR07103.1	large S protein [Hepatitis B virus]	285	4e-76
gi 38000035 gb AAR07100.1	large S protein [Hepatitis B virus]	285	4e-76
gi 38000033 gb AAR07099.1	large S protein [Hepatitis B virus]	285	4e-76
gi 32330500 gb AAP79741.1	large S protein [Hepatitis B virus]	285	4e-76
gi 1518549 gb AAB47467.1	large S protein	285	4e-76
gi 10443818 gb AAG17582.1	large S protein [Hepatitis B virus]	285	4e-76
gi 3551323 dbj EAA32879.1	envelope protein [Hepatitis B vi...	285	4e-76
gi 329728 gb AAA45528.1	B1 wild-type molecule; ORF1	285	4e-76
gi 6538747 gb AAF15886.1	truncated large envelope protein ...	283	1e-75
gi 32330588 gb AAP79618.1	large S protein [Hepatitis B virus]	283	1e-75
gi 32330540 gb AAP79776.1	large S protein [Hepatitis B virus]	283	1e-75
gi 32330468 gb AAP79713.1	large S protein [Hepatitis B virus]	283	1e-75
gi 10443810 gb AAG17575.1	large S protein [Hepatitis B virus]	283	1e-75
gi 38000017 gb AAR07092.1	large S protein [Hepatitis B virus]	283	1e-75
gi 38000039 gb AAR07102.1	large S protein [Hepatitis B virus]	283	1e-75
gi 38000031 gb AAR07098.1	large S protein [Hepatitis B virus]	283	1e-75
gi 18389986 gb AAL68820.1	surface antigen [Hepatitis B virus]	283	1e-75
gi 47499956 gb AAT28735.1	large S protein [Hepatitis B vir...	283	1e-75
gi 5114073 gb AAD40207.1	PreS1+PreS2+HBsAg [Hepatitis B vi...	283	1e-75
gi 32330564 gb AAP79797.1	large S protein [Hepatitis B virus]	283	2e-75
gi 32330532 gb AAP79769.1	large S protein [Hepatitis B virus]	282	2e-75
gi 7593014 dbj EAA94507.1	surface antigen [Hepatitis B virus]	282	2e-75
gi 52353926 gb AAU44345.1	large S protein [Hepatitis B virus]	282	3e-75
gi 50540998 gb AAF77986.1	pre-S/S protein [Hepatitis B virus]	282	3e-75
gi 42558184 dbj BAD11082.1	large surface protein [Hepatiti...	281	4e-75
gi 38000026 gb AAR07096.1	large S protein [Hepatitis B virus]	281	4e-75
gi 38000019 gb AAR07093.1	large S protein [Hepatitis B virus]	281	4e-75
gi 32330556 gb AAP79790.1	large S protein [Hepatitis B virus]	281	4e-75
gi 15211898 emb CAC51287.1	large surface antigen [Hepatiti...	281	5e-75
gi 22655604 gb AAN04131.1	large S protein [Hepatitis B virus]	281	6e-75
gi 23194352 gb AAN15127.1	large S protein [Hepatitis B virus]	281	6e-75
gi 22530872 gb AAM96926.1	large S protein [Hepatitis B vir...	281	6e-75
gi 38000028 gb AAR07097.1	large S protein [Hepatitis B virus]	281	6e-75
gi 47499924 gb AAT28711.1	large S protein [Hepatitis B virus]	281	6e-75
gi 47499884 gb AAT28681.1	large S protein [Hepatitis B virus]	281	6e-75
gi 5114078 gb AAD40211.1	PreS1+PreS2+HBsAg [Hepatitis B vi...	281	6e-75
gi 40846458 gb AAR92495.1	LHBS/MHBS/HBsAg [Hepatitis B virus]	281	6e-75
gi 18146690 dbj BAB82408.1	LHBS [Hepatitis B virus]	281	6e-75
gi 50540996 gb AAF77985.1	pre-S/S protein [Hepatitis B virus]	280	8e-75
gi 32330572 gb AAP79804.1	large S protein [Hepatitis B virus]	280	8e-75
gi 32330516 gb AAP79755.1	large S protein [Hepatitis B virus]	280	8e-75
gi 20151227 gb AAC38023.3	preS1/S2/S protein [Hepatitis B ...	280	1e-74
gi 32330508 gb AAP79748.1	large S protein [Hepatitis B virus]	280	1e-74
gi 32330492 gb AAP79734.1	large S protein [Hepatitis B virus]	280	1e-74
gi 3582400 dbj BAA32967.1	envelope protein [Hepatitis B vi...	280	1e-74
gi 527444 emb CAA84792.1	surface protein S [Hepatitis B vi...	280	1e-74
gi 27466505 gb AAO12591.1	preS1 [Hepatitis B virus]	280	1e-74
gi 23194345 gb AAN15121.1	large S protein [Hepatitis B virus]	279	2e-74
gi 20800460 gb AAM28641.1	envelope protein [Hepatitis B vi...	279	2e-74
gi 17226087 gb AAL37608.1	aberrant pre-S/S protein [Hepati...	279	2e-74
gi 32330548 gb AAP79783.1	large S protein [Hepatitis B virus]	279	2e-74

gi 3551318 dbj BAA32872.1	envelope protein [Hepatitis B vi...	279	2e-74
gi 17226089 gb AAL37609.1	aberrant pre-S/S protein [Hepati...	279	2e-74
gi 32330484 gb AAP79727.1	large S protein [Hepatitis B virus]	279	2e-74
gi 15211906 emb CAC51294.1	large surface antigen [Hepatiti...	278	4e-74
gi 15211891 emb CAC51281.1	large surface antigen [Hepatiti...	278	4e-74
gi 18621108 emb CAC87026.1	large surface antigen [Hepatiti...	278	4e-74
gi 12246997 gb AAG49692.1	large S protein [Hepatitis B vir...	278	4e-74
gi 32330596 gb AAP79825.1	large S protein [Hepatitis B virus]	278	4e-74
gi 26224722 gb AAN76319.1	envelope protein [Hepatitis B vi...	278	5e-74
gi 17226075 gb AAL37602.1	mutant pre-S/S protein [Hepatiti...	278	5e-74
gi 15320532 gb AAK95345.1	large S protein [Hepatitis B virus]	278	5e-74
gi 2997629 gb AAC35890.1	large S protein [Hepatitis B virus]	276	1e-73
gi 908857 emb CAA36230.1	S gene product [Hepatitis B virus...	276	2e-73
gi 17226073 gb AAL37601.1	mutant pre-S/S protein [Hepatiti...	276	2e-73
gi 59421 emb CAA26539.1	unnamed protein product [Hepatitis...	276	2e-73
gi 27466444 gb AAO12563.1	preS1 [Hepatitis B virus]	276	2e-73
gi 47499888 gb AAT28684.1	large S protein [Hepatitis B virus]	276	2e-73
gi 17226081 gb AAL37605.1	mutant pre-S/S protein [Hepatiti...	275	5e-73
gi 17226079 gb AAL37604.1	mutant pre-S/S protein [Hepatiti...	275	5e-73
gi 17226069 gb AAL37599.1	mutant pre-S/S protein [Hepatiti...	275	5e-73
gi 32330476 gb AAP79720.1	large S protein [Hepatitis B virus]	275	5e-73
gi 27466436 gb AAO12556.1	preS1 [Hepatitis B virus]	274	6e-73
gi 17226071 gb AAL37600.1	mutant pre-S/S protein [Hepatiti...	274	6e-73
gi 32330580 gb AAP79811.1	large S protein [Hepatitis B virus]	274	8e-73
gi 5114083 gb AAD40215.1	PreS1+PreS2+HBsAg [Hepatitis B vi...	274	8e-73
gi 5114068 gb AAD40203.1	PreS1+PreS2+HBsAg [Hepatitis B vi...	273	1e-72
gi 38488599 dbj BAD02316.1	large surface protein [Hepatiti...	273	1e-72
gi 34761146 gb AAQ81933.1	surface protein [Hepatitis B virus]	272	2e-72
gi 6692567 gb AAF24735.1	large S protein [Hepatitis B virus]	272	2e-72
gi 17226065 gb AAL37597.1	mutant pre-S/S protein [Hepatiti...	272	3e-72
gi 39930184 dbj BAD05054.1	large surface protein [Hepatiti...	271	4e-72
gi 27923031 dbj BAC55957.1	large surface protein [Hepatiti...	271	4e-72
gi 32330524 gb AAP79762.1	large S protein [Hepatitis B virus]	271	4e-72
gi 6063451 dbj BAA85344.1	preS1/pres2/S envelope [Hepatiti...	271	4e-72
gi 14488425 gb AAC58029.2	large surface antigen [Hepatitis...	271	5e-72
gi 33284986 dbj BAC80210.1	large surface protein [Hepatiti...	271	7e-72
gi 30026436 gb AAP06632.1	large S protein [Hepatitis B virus]	270	9e-72
gi 41152702 dbj BAD08230.1	large surface protein [Hepatiti...	270	9e-72
gi 18031716 gb AAL56631.1	surface protein HBsAg [Hepatitis...	270	9e-72
gi 18031712 gb AAL56629.1	surface protein HBsAg [Hepatitis...	270	9e-72
gi 5019961 gb AAD37942.1	pre-S/S protein [Hepatitis B virus]	270	9e-72
gi 3551378 dbj BAA32944.1	envelope protein [Hepatitis B vi...	270	9e-72
gi 3551338 dbj BAA32891.1	envelope protein [Hepatitis B vi...	270	9e-72
gi 30026428 gb AAP06625.1	large S protein [Hepatitis B virus]	270	1e-71
gi 19224215 gb AAL86446.1	large S protein [Hepatitis B virus]	270	1e-71
gi 55978972 gb AAV68949.1	large S protein [Hepatitis B vir...	270	1e-71
gi 32346302 gb AAO41330.1	preS1/pres2 surface protein [Hep...	269	2e-71
gi 32346255 gb AAO41295.1	preS1/pres2 surface protein [Hep...	269	2e-71
gi 51449958 gb AAU01950.1	preS1/pres2 surface [Hepatitis B...	269	2e-71
gi 51449922 gb AAU01921.1	preS1/pres2 surface [Hepatitis B...	269	2e-71
gi 29150593 gb AAO64450.1	truncated surface antigen [Hepat...	269	2e-71
gi 21431679 gb AAM53412.1	surface protein [Hepatitis B virus]	269	2e-71
gi 6692560 gb AAF24728.1	large S protein [Hepatitis B virus]	269	2e-71
gi 6006342 dbj BAA84834.1	envelope protein [Hepatitis B vi...	269	2e-71
gi 30026400 gb AAP06601.1	large S protein [Hepatitis B virus]	269	2e-71
gi 51449962 gb AAU01953.1	preS1/pres2 surface [Hepatitis B...	269	2e-71
gi 6692540 gb AAF24708.1	large S protein [Hepatitis B viru...	269	2e-71
gi 6692526 gb AAF24694.1	large S protein [Hepatitis B virus]	269	2e-71
gi 6063446 dbj BAA85340.1	preS1/pres2/S envelope [Hepatiti...	269	2e-71
gi 15340832 gb AAK94656.1	HBsAg [Hepatitis B virus]	268	3e-71

gi 17226077 gb AAL37603.1	mutant pre-S/S protein [Hepatiti...	268	3e-71
gi 51449928 gb AAU01926.1	preS1/preS2 surface [Hepatitis B...	268	4e-71
gi 54645920 gb AAV36565.1	S1 protein [Hepatitis B virus]	268	6e-71
gi 30026315 gb AAP06528.1	large S protein [Hepatitis B virus]	268	6e-71
gi 51449938 gb AAU01934.1	preS1/preS2 surface [Hepatitis B...	268	6e-71
gi 17226067 gb AAL37598.1	mutant pre-S/S protein [Hepatiti...	268	6e-71
gi 38147025 gb AAP44480.1	large S protein [Hepatitis B virus]	268	6e-71
gi 6692554 gb AAF24722.1	large S protein [Hepatitis B virus]	268	6e-71
gi 9454474 gb AAF87834.1	preS1/preS2/S envelope protein [H...	268	6e-71
gi 30026362 gb AAP06568.1	large S protein [Hepatitis B virus]	267	7e-71
gi 6692547 gb AAF24715.1	large S protein [Hepatitis B virus]	267	7e-71
gi 13991871 gb AAK51538.1	truncated envelope protein [Hepa...	267	9e-71
gi 55978954 gb AAV68934.1	large S protein [Hepatitis B virus]	266	1e-70
gi 32346274 gb AAO41309.1	preS1/preS2 surface protein [Hep...	266	1e-70
gi 30983615 gb AAP40742.1	large S protein [Hepatitis B virus]	266	1e-70
gi 30026385 gb AAP06588.1	large S protein [Hepatitis B virus]	266	1e-70
gi 30026329 gb AAP06540.1	large S protein [Hepatitis B virus]	266	1e-70
gi 51449933 gb AAU01930.1	preS1/preS2 surface [Hepatitis B...	266	1e-70
gi 38000023 gb AAR07095.1	large S protein [Hepatitis B virus]	266	1e-70
gi 2997633 gb AAC35892.1	large S protein [Hepatitis B virus]	266	1e-70
gi 7444294 pir T13469	large surface antigen - hepatitis B ...	266	1e-70
gi 32346290 gb AAO41321.1	preS1/preS2 surface protein [Hep...	266	2e-70
gi 6566411 dbj BAA88276.1	L protein [Hepatitis B virus]	266	2e-70
gi 3551368 dbj BAA32933.1	envelope protein [Hepatitis B vi...	266	2e-70
gi 32346286 gb AAO41318.1	preS1/preS2 surface protein [Hep...	266	2e-70
gi 51449973 gb AAU01962.1	preS1/preS2 surface [Hepatitis B...	266	2e-70
gi 27261587 gb AAN85929.1	surface antigen [Hepatitis B vir...	266	2e-70
gi 32346298 gb AAO41327.1	preS1/preS2 surface protein [Hep...	265	3e-70
gi 30026342 gb AAP06551.1	large S protein [Hepatitis B virus]	265	3e-70
gi 2997639 gb AAC35895.1	large S protein [Hepatitis B virus]	265	4e-70
gi 41059686 gb AAR99337.1	Pre-S/S protein [Hepatitis B virus]	265	4e-70
gi 3582404 dbj BAA32970.1	envelope protein [Hepatitis B vi...	265	4e-70
gi 32346266 gb AAO41303.1	preS1/preS2 surface protein [Hep...	265	5e-70
gi 1359703 emb CAA66445.1	pre-S1 protein [Hepatitis B viru...	265	5e-70
gi 9885812 gb AAG01538.1	large envelope protein [Hepatitis...	264	6e-70
gi 6692573 gb AAF24741.1	large S protein [Hepatitis B virus]	264	6e-70
gi 30983609 gb AAP40737.1	large S protein [Hepatitis B virus]	264	8e-70
gi 2997635 gb AAC35893.1	large S protein [Hepatitis B virus]	264	8e-70
gi 9247183 gb AAB36407.2	envelope [Hepatitis B virus]	264	8e-70
gi 560058 dbj BAA04908.1	HBV surface proteins [Hepatitis B...	263	1e-69
gi 14488427 gb AAC58040.2	large surface antigen [Hepatitis...	263	1e-69
gi 560063 dbj BAA04912.1	HBV surface proteins [Hepatitis B...	263	1e-69
gi 4468851 emb CAB38230.1	surface protein [Hepatitis B virus]	263	2e-69
gi 2997631 gb AAC35891.1	large S protein [Hepatitis B virus]	263	2e-69
gi 560068 dbj BAA04916.1	HBV surface proteins [Hepatitis B...	263	2e-69
gi 51449942 gb AAU01937.1	preS1/preS2 surface [Hepatitis B...	262	2e-69
gi 6566441 dbj BAA88287.1	L protein [Hepatitis B virus]	262	2e-69
gi 32346270 gb AAO41306.1	preS1/preS2 surface protein [Hep...	262	3e-69
gi 17226091 gb AAL37610.1	aberrant pre-S/S protein [Hepati...	262	3e-69
gi 3551274 dbj BAA32837.1	envelope protein [Hepatitis B vi...	262	3e-69
gi 32346306 gb AAO41333.1	preS1/preS2 surface protein [Hep...	261	4e-69
gi 15419861 gb AAK97204.1	large/middle/small S proteins [H...	261	5e-69
gi 6566429 dbj BAA88282.1	M protein [Hepatitis B virus]	261	5e-69
gi 397552 emb CAA49217.1	viral polyprotein [Hepatitis B vi...	261	7e-69
gi 6573294 dbj BAA88292.1	L protein [Hepatitis B virus]	260	1e-68
gi 30983660 gb AAP40781.1	large S protein [Hepatitis B virus]	259	2e-68
gi 30026443 gb AAP06638.1	large S protein [Hepatitis B virus]	259	2e-68
gi 14488409 gb AAC58021.2	large surface antigen [Hepatitis...	259	2e-68
gi 2627022 dbj BAA23468.1	large surface protein [Hepatitis...	259	2e-68
gi 2627016 dbj BAA23462.1	large surface protein [Hepatitis...	259	2e-68

gi 30983650 gb AAP40772.1	large S protein [Hepatitis B virus]	259	2e-68
gi 17397857 gb AAC58022.3	large surface antigen [Hepatitis...	258	3e-68
gi 2997625 gb AAC35888.1	large S protein [Hepatitis B virus]	258	3e-68
gi 3551298 dbj BAA32856.1	envelope protein [Hepatitis B vi...	258	3e-68
gi 1359696 emb CAA66433.1	pre-S1 protein [Hepatitis B virus]	258	6e-68
gi 1934870 emb CAA66700.1	preS1 [Hepatitis B virus]	258	6e-68
gi 15419856 gb AAK97200.1	large/middle/small S proteins [H...	258	6e-68
gi 14488419 gb AAC58026.2	large surface antigen [Hepatitis...	258	6e-68
gi 50540990 gb AAT77982.1	pre-S/S protein [Hepatitis B virus]	256	2e-67
gi 5019982 gb AAD37959.1	pre-S/S protein [Hepatitis B virus]	256	2e-67
gi 15419846 gb AAK97192.1	large/middle/small S proteins [H...	255	3e-67
gi 3551328 dbj BAA32883.1	envelope protein [Hepatitis B vi...	255	3e-67
gi 15419841 gb AAK97188.1	large/middle/small S proteins [H...	255	4e-67
gi 26224727 gb AAN76324.1	large S protein [Hepatitis B virus]	254	5e-67
gi 23884546 gb AAN40008.1	preS1/pres2 surface protein [Hep...	254	5e-67
gi 21759681 gb AAG01441.2	surface protein [Hepatitis B virus]	254	5e-67
gi 7188656 gb AAF37834.1	preS1/pres2 surface protein [Hepa...	254	5e-67
gi 7444295 pir  T13474	large surface antigen - hepatitis B ...	254	5e-67
gi 33113435 gb AAP94237.1	large S protein [Hepatitis B virus]	254	6e-67
gi 50540986 gb AAT77980.1	pre-S/S protein [Hepatitis B vir...	254	6e-67
gi 50540978 gb AAT77976.1	pre-S/S protein [Hepatitis B virus]	254	8e-67
gi 50540988 gb AAT77981.1	pre-S/S protein [Hepatitis B virus]	253	1e-66
gi 32330604 gb AAP79832.1	large S protein [Hepatitis B virus]	253	1e-66
gi 38603644 dbj BAD02923.1	large surface protein [Hepatiti...	253	2e-66
gi 55274838 gb AAV49213.1	large S protein [Hepatitis B virus]	252	2e-66
gi 21759679 gb AAG01440.2	surface protein [Hepatitis B virus]	252	3e-66
gi 50540984 gb AAT77979.1	pre-S/S protein [Hepatitis B virus]	252	3e-66
gi 12060188 dbj BAB20446.1	large surface protein [Hepatiti...	252	3e-66
gi 21759687 gb AAL84821.2	surface protein [Hepatitis B virus]	252	3e-66
gi 21759685 gb AAL84820.2	surface protein [Hepatitis B virus]	252	3e-66
gi 9454174 gb AAF87694.1	envelope protein [Hepatitis B virus]	251	4e-66
gi 1518563 gb AAB47474.1	large S protein	251	4e-66
gi 6063471 dbj BAA85378.1	preS1/pres2/S envelope [Hepatiti...	251	4e-66
gi 30026350 gb AAP06558.1	large S protein [Hepatitis B virus]	251	5e-66
gi 4007050 emb CAA10423.1	pre-S1/pres2/S protein [Hepatiti...	251	5e-66
gi 15419834 gb AAK97183.1	large/middle/small S proteins [H...	251	5e-66
gi 32330644 gb AAP79867.1	large S protein [Hepatitis B virus]	251	5e-66
gi 32330628 gb AAP79853.1	large S protein [Hepatitis B virus]	251	5e-66
gi 6691506 dbj BAA89331.1	envelope protein [Hepatitis B vi...	251	5e-66
gi 50540982 gb AAT77978.1	pre-S/S protein [Hepatitis B virus]	251	7e-66
gi 22711892 gb AAL84829.3	surface protein [Hepatitis B virus]	251	7e-66
gi 55274852 gb AAV49225.1	large S protein [Hepatitis B virus]	250	9e-66
gi 33113475 gb AAP94272.1	large S protein [Hepatitis B virus]	250	1e-65
gi 56090027 gb AAV70947.1	pre-S protein [Hepatitis B virus]	250	1e-65
gi 1518559 gb AAB47472.1	large S protein	250	1e-65
gi 1518553 gb AAB47469.1	large S protein	250	1e-65
gi 33113443 gb AAP94244.1	large S protein [Hepatitis B virus]	249	2e-65
gi 4007070 emb CAA10443.1	pre-S1/pres2/S protein [Hepatiti...	249	2e-65
gi 1359688 emb CAA66432.1	pre-S1 protein [Hepatitis B viru...	249	2e-65
gi 22711890 gb AAL84828.3	surface protein [Hepatitis B virus]	249	2e-65
gi 47499952 gb AAT28732.1	large S protein [Hepatitis B virus]	249	2e-65
gi 47499928 gb AAT28714.1	large S protein [Hepatitis B virus]	249	2e-65
gi 1518561 gb AAB47473.1	large S protein	249	2e-65
gi 1518555 gb AAB47470.1	large S protein	249	2e-65
gi 55274845 gb AAV49219.1	large S protein [Hepatitis B virus]	249	3e-65
gi 73564 pir  SAVLVE	large surface antigen - hepatitis B vi...	249	3e-65
gi 32330612 gb AAP79839.1	large S protein [Hepatitis B virus]	249	3e-65
gi 4704321 emb CAB41701.1	pre-S and S proteins [Hepatitis ...	248	3e-65
gi 37223476 gb AAQ90276.1	surface antigen protein [Hepatit...	248	3e-65
gi 37223448 gb AAQ90262.1	surface antigen protein [Hepatit...	248	3e-65

gi 33113467 qb AAP94265.1	large S protein [Hepatitis B virus]	248	3e-65
gi 1514494 emb CAA68861.1	PreS [Hepatitis B virus]	248	3e-65
gi 38483604 dbj BAD02320.1	large surface protein [Hepatiti...	248	3e-65
gi 21759707 qb AAL84831.2	surface protein [Hepatitis B virus]	248	3e-65
gi 11935074 qb AAG41956.1	preS1/preS2 surface protein [Hep...	248	3e-65
gi 32261195 dbj BAC78512.1	pre-S and S protein [Hepatitis ...]	248	3e-65
gi 32261180 dbj BAC78503.1	pre-S and S proteins [Hepatitis...]	248	3e-65
gi 32261170 dbj BAC78495.1	pre-S and S proteins [Hepatitis...]	248	3e-65
gi 47499896 qb AAT28690.1	large S protein [Hepatitis B virus]	248	3e-65
gi 47499892 qb AAT28687.1	large S protein [Hepatitis B virus]	248	3e-65
gi 32330620 qb AAF79846.1	large S protein [Hepatitis B virus]	248	3e-65
gi 527439 emb CAA84788.1	surface protein S [Hepatitis B vi...	248	5e-65
gi 2664399 emb CAA05872.1	surface protein [Hepatitis B virus]	248	5e-65
gi 18621123 emb CAC87013.1	large surface antigen [Hepatiti...]	248	5e-65
gi 21759691 qb AAL84823.2	surface protein [Hepatitis B virus]	248	5e-65
gi 14488417 qb AAC58025.2	large surface antigen [Hepatitis...]	248	5e-65
gi 73560 pir SAVLAF	large surface antigen - hepatitis B vi...	248	5e-65
gi 2829157 qb AAC40811.1	pre-S1 protein [Hepatitis B virus]	248	5e-65
gi 6691501 dbj BAA89327.1	envelope protein [Hepatitis B vi...]	248	5e-65
gi 37223436 qb AAQ90256.1	surface antigen protein [Hepatit...]	248	6e-65
gi 33113427 qb AAP94230.1	large S protein [Hepatitis B virus]	248	6e-65
gi 1359680 emb CAA66425.1	pre-S1 protein [Hepatitis B virus]	248	6e-65
gi 14194414 qb AAK56387.1	preS deletion mutant 1 [Hepatiti...]	248	6e-65
gi 14194416 qb AAK56388.1	preS deletion mutant 2 [Hepatiti...]	248	6e-65
gi 7188650 qb AAF37829.1	preS1/preS2 surface protein [Hepa...]	248	6e-65
gi 47499948 qb AAT28729.1	large S protein [Hepatitis B virus]	248	6e-65
gi 47499936 qb AAT28720.1	large S protein [Hepatitis B virus]	248	6e-65
gi 47499932 qb AAT28717.1	large S protein [Hepatitis B virus]	248	6e-65
gi 47499920 qb AAT28708.1	large S protein [Hepatitis B virus]	248	6e-65
gi 47499916 qb AAT28705.1	large S protein [Hepatitis B virus]	248	6e-65
gi 3454169 qb AAF87690.1	envelope protein [Hepatitis B virus]	248	6e-65
gi 1518557 qb AAB47471.1	large S protein	248	6e-65
gi 54125537 qb AAV30534.1	S protein [Hepatitis B virus]	247	8e-65
gi 4007080 emb CAA10455.1	pre-S1/preS2/S protein [Hepatiti...]	247	8e-65
gi 12060195 dbj BAB20452.1	large surface protein [Hepatiti...]	247	8e-65
gi 28812223 dbj BAC65109.1	envelop protein [Hepatitis B vi...]	247	8e-65
gi 1814222 qb AAB41952.1	pre-HBsAg protein [Hepatitis B vi...]	247	8e-65
gi 6063466 dbj BAA85374.1	preS1/preS2/S envelope [Hepatiti...]	247	8e-65
gi 3688321 emb CAA76788.1	surface protein [Hepatitis B vir...]	247	1e-64
gi 4007075 emb CAA10447.1	pre-S1/preS2/S protein [Hepatiti...]	247	1e-64
gi 4007060 emb CAA10431.1	pre-S1/preS2/S protein [Hepatiti...]	247	1e-64
gi 73573 pir SAVLCP	large surface antigen - hepatitis B vi...	247	1e-64
gi 32330636 qb AAP79860.1	large S protein [Hepatitis B virus]	247	1e-64
gi 37223468 qb AAQ90272.1	surface antigen protein [Hepatit...]	246	1e-64
gi 56090034 qb AAV70953.1	pre-S protein [Hepatitis B virus]	246	1e-64
gi 56090023 qb AAV70944.1	pre-S protein [Hepatitis B virus]	246	1e-64
gi 3688325 emb CAA76790.1	surface protein [Hepatitis B virus]	246	1e-64
gi 452612 emb CAA54515.1	HBV surface proteins [Hepatitis B...]	246	1e-64
gi 32261175 dbj BAC78499.1	pre-S and S proteins [Hepatitis...]	246	1e-64
gi 28812218 dbj BAC65105.1	envelop protein [Hepatitis B vi...]	246	1e-64
gi 73561 pir SAVIA1	large surface antigen - hepatitis B vi...	246	1e-64
gi 8926929 dbj BAA98024.1	env protein [Hepatitis B virus]	246	1e-64
gi 6691496 dbj BAA89323.1	envelope protein [Hepatitis B vi...]	246	1e-64
gi 37223466 qb AAQ90271.1	surface antigen protein [Hepatit...]	246	2e-64
gi 22135694 qb AAM09036.1	LHBS/MHBS/HBsAg [Hepatitis B virus]	246	2e-64
gi 4140296 emb CAA10540.1	surface antigen precursor [Hepat...]	246	2e-64
gi 27466513 qb AAQ12598.1	preS1 [Hepatitis B virus]	246	2e-64
gi 32261187 dbj BAC78508.1	pre-S and S protein [Hepatitis ...]	246	2e-64
gi 5532395 qb AAD44711.1	large S protein [Hepatitis B virus]	246	2e-64
gi 34761136 qb AAQ81925.1	surface protein [Hepatitis B virus]	246	2e-64

gi 59430 emb CAA46349.1	pre S1/pre S2/S ORF [Hepatitis B v...	246	2e-64
gi 16903380 gb AAL30461.1	large surface protein [Hepatitis...	246	2e-64
gi 73572 pir SAVLJ3	large surface antigen - hepatitis B vi...	246	2e-64
gi 38374295 gb AAR19347.1	large surface protein [Hepatitis...	245	3e-64
gi 38374286 gb AAR19340.1	large surface protein [Hepatitis...	245	3e-64
gi 37223460 gb AAQ90268.1	surface antigen protein [Hepatit...	245	3e-64
gi 138799 sp P03138 VMSA_HPBVY	Major surface antigen precur...	245	3e-64
gi 4033544 emb CAA10435.1	pre-S1/preS2/S protein [Hepatiti...	245	3e-64
gi 21759709 gb AAL84832.2	surface protein [Hepatitis B virus]	245	3e-64
gi 21759693 gb AAL84824.2	surface protein [Hepatitis B virus]	245	3e-64
gi 8926932 dbj BAAG8026.1	env protein [Hepatitis B virus]	245	3e-64
gi 229013 prf 1815308A	pre-S protein	245	3e-64
gi 37223474 gb AAQ90275.1	surface antigen protein [Hepatit...	245	4e-64
gi 37223458 gb AAQ90267.1	surface antigen protein [Hepatit...	245	4e-64
gi 54125531 gb AAV30529.1	S protein [Hepatitis B virus]	245	4e-64
gi 22135699 gb AAM09040.1	LHBS/MHBS/HBsAg [Hepatitis B virus]	245	4e-64
gi 27466567 gb AAO12626.1	preS1 [Hepatitis B virus] >gi 27...	245	4e-64
gi 32261205 dbj BAC78517.1	pre-S and S protein [Hepatitis ...]	245	4e-64
gi 73571 pir SAVLJ2	large surface antigen - hepatitis B vi...	245	4e-64
gi 6692513 gb AAF24681.1	large S protein [Hepatitis B virus]	245	4e-64
gi 22711888 gb AAL84827.3	surface protein [Hepatitis B virus]	244	5e-64
gi 32261191 dbj BAC78510.1	pre-S and S protein [Hepatitis ...]	244	5e-64
gi 16117334 dbj BAE69794.1	LHBS/MHBS/HBsAg [Hepatitis B vi...	244	5e-64
gi 2997627 gb AAC35889.1	large S protein [Hepatitis B virus]	244	5e-64
gi 21218032 dbj BAB96530.1	large S protein [Hepatitis B vi...	244	5e-64
gi 37223462 gb AAQ90269.1	surface antigen protein [Hepatit...	244	7e-64
gi 59440 emb CAA46357.1	pre S1/pre S2/S ORF [Hepatitis B v...	244	7e-64
gi 22711886 gb AAL84825.3	surface protein [Hepatitis B virus]	244	7e-64
gi 8926926 dbj BAA98022.1	envelope protein [Hepatitis B vi...	244	7e-64
gi 38374290 gb AAR19343.1	large surface protein [Hepatitis...	244	9e-64
gi 37223444 gb AAQ90260.1	surface antigen protein [Hepatit...	244	9e-64
gi 47499940 gb AAT28723.1	large S protein [Hepatitis B virus]	244	9e-64
gi 47499908 gb AAT28699.1	large S protein [Hepatitis B virus]	244	9e-64
gi 38374271 gb AAR19332.1	large surface protein [Hepatitis...	243	1e-63
gi 37223450 gb AAQ90263.1	surface antigen protein [Hepatit...	243	1e-63
gi 22135729 gb AAM09064.1	LHBS/MHBS/HBsAg [Hepatitis B virus]	243	1e-63
gi 32261203 dbj BAC78516.1	pre-S and S protein [Hepatitis ...]	243	1e-63
gi 32261199 dbj BAC78514.1	pre-S and S protein [Hepatitis ...]	243	1e-63
gi 11191921 dbj BAB17998.1	LHBS [Hepatitis B virus]	243	1e-63
gi 452616 emb CAA54516.1	HBV surface proteins [Hepatitis B...	243	1e-63
gi 32261207 dbj BAC78518.1	pre-S and S protein [Hepatitis ...]	243	1e-63
gi 73570 pir SAVLJ1	large surface antigen - hepatitis B vi...	243	1e-63
gi 18146672 dbj BAB82393.1	LHBS [Hepatitis B virus]	243	1e-63
gi 21218036 dbj BAB96532.1	large S protein [Hepatitis B vi...	243	1e-63
gi 3688323 emb CAA76789.1	surface protein [Hepatitis B virus]	243	2e-63
gi 3688315 emb CAA76785.1	surface protein [Hepatitis B vir...	243	2e-63
gi 59435 emb CAA46353.1	pre S1/S ORF [Hepatitis B virus] >...	243	2e-63
gi 18621115 emb CAC87019.1	large surface antigen [Hepatiti...	243	2e-63

## Alignments

Get selected sequences

Select all

Deselect all

☐ >gi|322346278|gb|AAO41312.1| preS1/preS2 surface protein [Hepatitis B virus]  
Length = 400




Score = 313 bits (801), Expect = 1e-84  
Identities = 149/174 (85%), Positives = 149/174 (85%)

Query: 1 MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWEANQVXX 60  
MGGWSSKPRQGMGTNLSVPNPLGFFPDHQLDPAFGANSNNPDWDFNPNKDHWEANQV  
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 >[gi|30983637|gb|AAF40761.1](#) truncated large S protein [Hepatitis B virus]  
Length = 355

Score = 313 bits (801), Expect = 1e-84  
Identities = 149/174 (85%), Positives = 149/174 (85%)

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
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Score = 313 bits (801), Expect = 1e-84  
Identities = 149/174 (85%), Positives = 149/174 (85%)

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 >[gi|14290242|gb|AAK59317.1](#) surface antigen [Hepatitis B virus]  
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Score = 313 bits (801), Expect = 1e-84  
Identities = 149/174 (85%), Positives = 149/174 (85%)

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
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 >gi|15340846|qb|AAK94663.1| HBsAg [Hepatitis B virus]  
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Score = 313 bits (801), Expect = 1e-84  
Identities = 149/174 (85%), Positives = 149/174 (85%)

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## WEST Search History

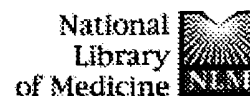




DATE: Monday, December 27, 2004

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		<i>DB=PGPB,USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=OR</i>	
<input type="checkbox"/>	L16	L6 and (asparagine or N-glycos\$) same (HBV or hepatitis or pre-S\$3)	17
<input type="checkbox"/>	L15	L14 and I13	44
<input type="checkbox"/>	L14	I9 and \$4glycosylat\$ with (stabil\$5 or stable or immun\$ or response)	114
<input type="checkbox"/>	L13	L12 and ((reduc\$ or modifi\$ or mutat\$ or prevent\$) with (N-glycos\$ or glycosyl\$) or non-glycosyl\$ or "not" adj glycos\$)	101
<input type="checkbox"/>	L12	I9 and (HBV or hepatitis adj B)	191
<input type="checkbox"/>	L10	L6 and (asparagine or asp\$5 or N-glycos\$) same (HBV or hepatitis or pre-S\$3)	133
<input type="checkbox"/>	L9	(pre-S\$2 or surface adj antigen or (large or middle) with (surface or HBsAg)) same (glycosylat\$ or N-glycosylat\$ or asparagin\$)	356
<input type="checkbox"/>	L6	20020502	743
<input type="checkbox"/>	L5	(HBV or hepatitis adj B) and (pre-S or antigen) same (N-glycos\$ or glycosylat\$)	1050
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END OF SEARCH HISTORY



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 Search PubMed for (HBV or "hepatitis B") AND (glycos\* or N-glyco) Preview Go Clear  
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<a href="#">#38</a>	Search (HBV or "hepatitis B") AND (glycos* or N-glycos*) AND (yeast or saccharo*) Field: Title/Abstract, Limits: Publication Date to 2002/05/02	16:34:44	<a href="#">15</a>
<a href="#">#36</a>	Search (HBV or "hepatitis B") AND (glycos* or N-glycos*) AND (pres1 or pre-s1 or large) Field: Title/Abstract, Limits: Publication Date to 2002/05/02	16:25:59	<a href="#">40</a>
<a href="#">#35</a>	Search (HBV or "hepatitis B") AND (glycos* or N-glycos*) AND (pres1 or pre-s1 or large) Field: Title/Abstract, Limits: Publication Date to 2003	16:25:52	<a href="#">45</a>
<a href="#">#34</a>	Search (HBV or "hepatitis B") AND (glycos* or N-glycos*) AND (pres1 or pre-s1 or large) Field: Title/Abstract	16:25:45	<a href="#">47</a>
<a href="#">#24</a>	Search (HBV or "hepatitis B") AND (glycos* or N-glycos*) Field: Title/Abstract	16:24:08	<a href="#">148</a>
<a href="#">#23</a>	Search (HBV or "hepatitis B") AND (glycos* or N-glycos*) Field: All Fields	15:49:24	<a href="#">186</a>
<a href="#">#22</a>	Related Articles for PubMed (Select 12659834)	15:48:49	<a href="#">337</a>
<a href="#">#11</a>	Search (Pres1 or pre-s1 or pre-s) AND (HBV or "hepatitis B") AND (glycosylation or N-glycosylation)	15:46:36	<a href="#">18</a>
<a href="#">#12</a>	Search (Pres1 or pre-s1 or pre-s) AND (HBV or "hepatitis B") AND (glycosylation or N-glycosylation) Field: Author, Limits: Publication Date to 2002/05/02	15:17:13	<a href="#">0</a>

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